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Professional Lawn Care Association of America, 1000 Johnson Ferry Rd., NE, Suite C-135, Marietta, GA 30068-2112; (404) 977-5222.

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AS WE SEE IT

JERRY ROCHE, EDITOR-IN-CHIEF

The plight of the small businessman

We are seeing in this country over the last 10 years an increase in the number of small businesses like landscaping and lawn care companies.

The Internal Revenue Service says 19 million non-farm businesses filed tax returns in 1988—an increase of seven million (or 58 percent) over 1980 figures.

Federal government statistics indicate that businesses with fewer than 20 employees represent approximately 85 percent of all American businesses. Attest:

No. Emps.	% of Businesses
1-4	47.1-51.7
5-9	21.7-23.1
10-19	12.3-14.6
20-49	7.9-10.6
50-99	2.6-3.4
100-499	1.9-2.3
500+	0.3-0.4

Those with fewer than 50 employees, then, represent approximately 94.5 percent of the businesses.

Can we surmise from these statistics that more of our labor force is growing disenchanted with the corporate profile? To some extent, yes. Can we surmise from these statistics that more of our labor force sees value in controlling their own destinies—regardless of the amount of work it takes? Yes.

According to the National Association for the Self-Employed (NASE), small business owners list independence or the opportunity to be their own boss as the main reason for self-employment.

Independence is wonderful. But there are some downsides, as most of our small business readers doubtless realize.

The NASE—about which you'll be reading more in future issues of this magazine—also says that entrepreneurs work an average of 52.5 hours per week, as opposed to the national average of 43.5 hours per week.

That's one downside. Another is that there are no large organizations in place to effectively lobby for their interests in Washington.

That is why it is of utmost importance to you, the small businessperson, to get involved with events like the PLCAA/DowElanco "Legislative Day on the Hill" scheduled for Feb. 24-25 in Washington, D.C.

In this particular program, attendees visit personally with their Congressmen and Senators to discuss and promote the current issues, legislation and regulation facing Congress.

I attended the first Day on the Hill two years ago. Even after 20 years in the mass media, I was surprised at the way our federal government works.

Of all the people I've met who attended one of the first two Days on the Hill, I can't say I've heard even one say that the time and money wasn't well spent.

The PLCAA (404-977-5222) is handling all reservations. Speakers for warm-up sessions and some meals will be provided by DowElanco. There will be a special educational session, "Lobbying Your Legislator" at the Green Industry Expo to help prepare Day on the Hill attendees.

If you are a lawn care company that *isn't* a member of the PLCAA, you should be. If you *are* a member, you should try to attend its "Day on the Hill." If you're not a member of the PLCAA, but of *another* trade organization, let your leaders know that this idea could work for their special interest group, too.

Because one of the major plights of owning a small business is that—when it comes to the big issues:

If you don't do it yourself, nobody else will.

Jerry Roche

Jerry Roche
Editor-in-Chief

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BPA ABP

ASK THE EXPERT

DR. BALAKRISHNA RAO

Will B.t. eliminate bagworms?

Problem: We are having severe problems with bagworms on evergreens and locust plants. We are thinking of using a *Bacillus thuringiensis* biological control product. How effective is this material, and when is the best time to use it? *(Pennsylvania)*

Solution: Generally, bagworms on evergreen and other plants appear near mid-June. This is the time to treat.

Bacterial biocontrol products such as Thuricide, Dipel or Foray 48B Flowable concentrate can be used to manage bagworms. These B.t. products contain different *Bacillus thuringiensis* strains. The Foray 48B Flowable concentrate reportedly can give eight days of residual without using a spreader-slicker. This is about three days longer than other *Bacillus thuringiensis* Kurstaki formulations.

During the winter, removing the bags by hand is another way to manage next year's population. Eggs overwinter in the female bag. Remove, and then destroy or dispose of the bags in tightly sealed plastic trash bags. This sort of sanitation practice and biocontrol approach will help minimize the bagworm problem.

Mushroom control strategies

Problem: We are finding a large number of mushrooms growing around wolmanized wood. In this area, they had lots of trees which were removed before building the house. Is there any fungicide which can be used to eliminate the mushrooms? *(New York)*

Solution: The mushrooms you describe are growing on organic matter under the wolmanized wood. The organic matter's source is probably roots left behind after the trees have been removed. Another source would be leftover lumber from the house's construction.

The mushrooms can be hand-picked when found. To minimize the problem effectively, the underground buried objects need to be removed. This may be laborious and time-consuming. Another method is to fumigate the area. (This would kill the desirable plants or treat roots in that area, so be careful when using fumigants. Read and follow label specifications for better results.)

Paint for gypsy moths

Problem: Are there any paint applications which will eliminate gypsy moth eggs? *(New Jersey)*

Solution: Your idea sounds interesting. However, it may not work well because the paint may not penetrate deep enough to kill the eggs or prevent eggs from hatching because of hairs on the egg mass.

I am not familiar with any studies where this has been tried. Reports indicate that using materials like horticultural oil, vapor guard or some insecticides applied directly on the egg mass are not practical. One way to find out is to try it on a small egg mass.

Egg masses may be deposited at different heights on the tree. This may present a problem in treating all of them. Too, the gypsy moth can produce silken threads and balloon from one tree to another, thus causing larvae re-infestation.

Another option is to scrape off the egg mass, where feasible, and destroy them. Again, with this approach, it may not be practical to reach and remove all egg masses and also manage the gypsy moth spreading from other areas.

You can also try wrapping valuable trees with burlap when spring comes. Gypsy moth larvae may take shelter underneath the burlap covers. Periodically inspect the wrapping and collect and destroy any gypsy moth caterpillars you find.

Managing white pine dieback

Problem: White pines in our area show 12- to 18-inch-long terminals that are dying back. They tend to bend like an inverted 'U' shape. *(Pennsylvania)*

Solution: From your description of the symptoms, the problem appears to be related to white pine weevil insect damage.

This insect is a very common pest of white pine in landscaping and in forest areas, attacking the terminal's new growth. Affected plant parts discolor and show dieback, curled into the shape of a shepherd's crook. Upon closer examination, minute holes about the size of the tip of a ballpoint pen can be seen. To further verify, remove the browned-out bark from the affected area and look for larval tunnelling and lots of sawdust-like frass. You may find yellowish larvae if the life cycle is not completed.

Larvae feed on the inner bark and sapwood of the leading branches and terminal shoots of the main trunk. The affected leader will be killed and the subsequent branches growing in that area will be destroyed or eventually will be killed.

Larvae pupate in woody chip cocoons and emerge as adults. The beetles begin to emerge in late July to late August, leaving distinct emergence holes in the bark. Adults feed on the bark of terminals before dropping to the litter to overwinter. On warm spring days, adults move from the litter to the tree tops to mate and lay eggs in the bark. This insect also attacks spruce. Treat valuable pines and spruces with insecticide.

To manage the problem, prune and destroy all infected branches in early spring. Applications such as Dursban, Ficam, lindane or methroxyehlor can help manage the adults. Treat leaders when overwintering beetles appear, about mid-April to mid-May. Valuable plants also should be treated again between mid-August and mid-September.

Provide proper mulching, watering, fertilizing and pest management as needed to help improve plant health.

Balakrishna Rao is Manager of Technical Resources for the Davey Tree Co., Kent, Ohio.

Questions should be mailed to ASK THE EXPERT, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2 to 3 months for an answer to appear in the magazine.

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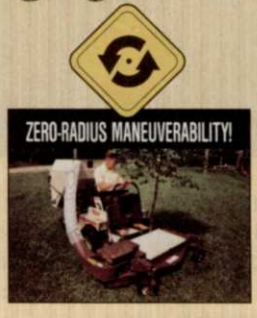

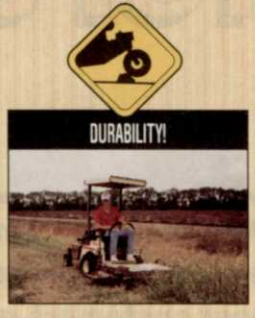

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LANDSCAPE MANAGEMENT

COVER STORY

Natural organic fertilizers

Why you can't ignore them any more: a percentage of your customers or constituents will demand that you apply them. Or they'll find someone else to do the job.

■ Poultry manures. Sewage sludges. Seed meals.

It's hard to believe that anything made from these materials could look attractive to anybody; but they do. Fertilizers made from these materials are beginning to catch the eye of professional turf care providers.

This, in spite of the perception that these so-called natural organic fertilizers:

- have an odor;
- are dusty;
- don't give turfgrass that initial burst of dark-green growth in early spring; and
- are significantly more expensive than synthetic fertilizers.

Odor and dust are marginal problems with some natural fertilizers. But the concerns about turfgrass green-up and cost, to a greater or lesser extent, are legitimate for all of these fertilizers.

Whatever shortcomings these materials have, increasing numbers of you *will* use *some* natural fertilizers on some of the turfgrass under your professional care.

More likely, because of cost and green-up considerations, you'll use a hybrid product containing both natural and manmade fertilizer materials. (ChemLawn's two-year-old Organix alternative program uses a fertilizer that's 52 percent natural organic, 48 percent manmade.)

Why will *you* use some natural organic material?

A percentage of your customers or constituents will demand that you apply them. Or they'll find someone else to do the job.

Proponents of natural organic fertilizers claim their products possess attributes that synthetic turf fertilizers, for all their efficiency and economy, lack. They insist that their natural products:

1.) improve soil structure; and

2.) provide energy sources for an incredibly complex combination of soil micro- and macro-organisms that, through their biological processes, reduce thatch and lessen the incidence and severity of turf diseases. (A small but growing body of university research suggests this is true.)

Also, natural fertilizers depend upon microbial action to break down complex organic molecules into nitrogen and other elements necessary for plant growth and health. These nutrients become available to turfgrass plants over weeks and months, providing slow, consistent turfgrass growth. Because of low salt indexes, natural fertilizers pose little danger of burning turfgrass.

With all these advantages, why haven't turf managers used them more extensively before? There are two answers:

1.) they haven't needed them, and

2.) cost.

The better-grade manufactured turf fertilizers, long available, do a good job of maintaining turfgrass. They also release nutrients slowly and, applied properly, aren't likely to burn turfgrass either. Also, manmade fertilizers are easy to apply, and their performance is predictable.

Along with these comparable benefits, manmade fertilizers—even the highest-

quality slow-release materials—are less expensive and contain two and sometimes three times more nitrogen by percentage than natural fertilizers.

Natural service is not something lawn and landscape maintenance businesses can barge into with their eyes closed. But, it is something they're increasingly willing to offer in addition to their established programs to attract that still-small and specialized portion of the market

Or they want to protect their own clients from the encroachment of a competitor's new and aggressively marketed alternative program.

Even the larger, production-driven application companies show refreshened interest in customer service. Increasingly, they're tailoring programs to accommodate smaller markets within markets.

Today's natural organic products are processed, deodorized (as much as raw materials will allow), and some are pelletized. Several suppliers claim their products can be applied in spreaders as conveniently as manmade materials.

Also, natural products can be mixed with manmade products such as urea-formaldehyde. The turfgrass rootzone biota benefits from the addition of organic matter and a host of micro nutrients, while the UF provides a green-up to the turf, particularly in the spring when the ground is still too cool for natural material to break down and release its nutrients.

Industry describes these products as hybrid or bridge products. Most of the LCOs spoken to by LANDSCAPE MANAGEMENT magazine said the cost of these products (somewhere between manmade and totally natural organic materials) would make them easier to incorporate into a professional program.

Although some of the public is raising questions about groundwater contamination and chemical use on lawns, turfgrass managers can demonstrate—facts at hand—that the environmental benefits of using manmade fertilizers far outweigh any threat.

Yet some of the public *perceives* that natural products are somehow safer, at the very least more acceptable, than synthetic products.

—Ron Hall

Mangum: Would like natural organics priced lower

On the golf course: natural fertilizers a supplement

Pennypacker: Tissue analyses can predict turf problems

■ Golf course superintendents interviewed by LANDSCAPE MANAGEMENT like the *supplemental* benefits provided by organic fertilizers during the summer months.

But in the fall and winter, they still depend on the proven benefits of synthetic and synthetic organic products.

Ken Mangum, superintendent of the Atlanta Athletic Club's 36-hole facility, uses a natural organic fertilizer intermittently during the summer.

After recently sodding four new sand-based greens, Mangum tried a 6-2-10 formulation. "We found that a lot of the natural products tend to stay in sand longer, and they also add organic material and microbial activity to the sand," he notes.

Mangum does, however, wish organics were more reasonably priced. "I think if they can bring the price down to where it's a bit more cost-effective, you'd see more people using them," he says. "They do have advantages that we all like to have. It's a question of how much it's worth."

Natural organic fertilizer has other benefits: "We like the Ringer product in the summer when the bentgrass is under heat and traffic stress," Mangum explains.

Russell Bateman, superintendent at the Baltimore Municipal Golf Center, recently solved a summer patch problem, thanks in part, he says, to natural organic fertilizer.

Bateman says research at Michigan State University indicated that 1/2 pound of the fertilizer allows you to cut fungicide rates in half.

"We did in fact do that," he recalls, "and we did control summer patch, although we saw a slight amount (return) at the end of season."

The cost per 1000 square feet is more, but Bateman sees a trade-off with his "big savings" on fungicides.

Bateman says natural organics also fit in with his IPM program.

When asked about fairway treatments, Bateman says one fairway, treated organically, had what he describes as a "less visible" disease presence, although that was not supported by testing.

John Pennypacker, superintendent at the Greenbriar Country Club in Chesapeake, Va., began supplementing his synthetic fertilizers with a natural organic product (Sustane) in the summer of 1989.

"Sand-based greens have become the thing of the future," he says, "but they also have been a royal pain to a lot of superintendents. There are no bacteria or micro-organisms in the sand to help combat disease."

Pennypacker says he wanted to keep the greens growing without the surge growth he sees with IBDU (isobutyldene diurea) fertilizers. So he applied 8/10 lb. of Sustane per green per month from May to August and "started noticing a large reduction in pythium and brown patch."

Synthetic products remain a part of Pennypacker's arsenal, and are used from September to December, and in January if the weather is not too cold. "We need them after a long, hard summer," says Pennypacker. "You get root development, and you can't get that with the natural organic. There's not enough of it there to make it through the growing period."

For the club's fescue lawn, Pennypacker tried a "bridge product" (containing both synthetic and natural organic elements), at a 1 lb./1000 sq. ft. rate.

"In about five days, the synthetic that was present released, giving a quick green-up. And about 10 days later, everything greened up," Pennypacker notes. A second application after 15 days of rain brought "astounding" results.

A supplemental application of Lesco's Twosome helped eliminate some lingering brown patch.

—Terry McIver

A matter of expectations

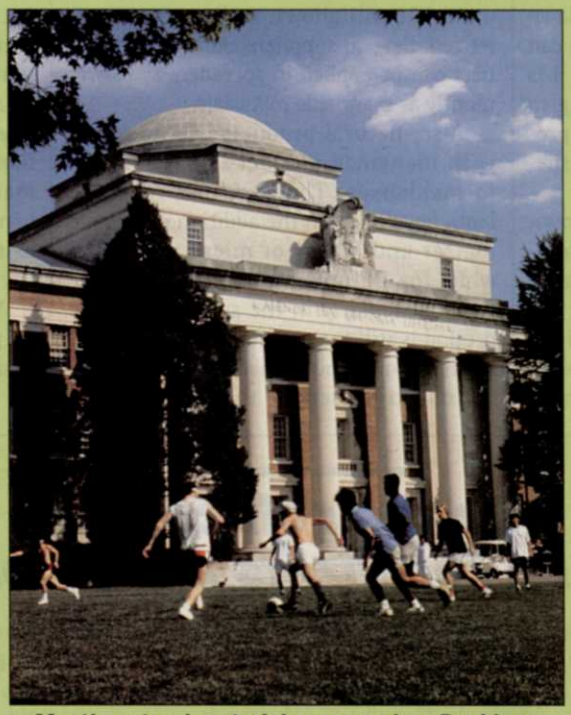
■ If *some* weeds, *some* insect and *some* disease damage don't bother your customers, then, by all means, consider reducing turf pesticide use.

But this is a big, big "if."

Irv Brawley, grounds superintendent at Davidson College near Charlotte, N.C., says "you've got to have a customer or a community that will accept a certain amount of weeds."

Brawley has, for almost 10 years, cared for about 100 acres of the college grounds practically without using pesticides.

Practically? Brawley says his crews sometimes have to fight an occasional insect infestation with control products. He says he chooses the least toxic material that he feels will solve the problem. "We don't do any preventive spraying," he maintains.



Mostly natural materials are used on Davidson College grounds.

Brawley describes his grounds care philosophy as an extension of organic gardening, principles he read about and practiced before attempting them on a college campus with its 1600 students.

"In some respects I compare what we do to growing a zucchini or a tomato plant. The secret is in having a healthy soil, the right pH, the right varieties of plants (turfgrass)," he says.

The cornerstone of his program, he says, is developing a "healthy" soil. Basic to this, he feels, is the use of organic fertilizers. He's used Milorganite, Fertrell, Nitro-10, and Earth-Rite with good results, and this season he's been using Sustane's turkey litter product.

Although the campus itself is a picture postcard of buildings, trees and turf, Brawly admits the college's par-three golf course is not in good shape—particularly the greens.

Brawley says the college didn't pressure him to implement his "natural" grounds program; he developed it himself. "I started out on a small scale, and it evolved," he explains.

Mike Grandy, grounds superintendent of Oak Park, Ill., had no choice this past summer. "We were told we'd not use pesticides under any circumstances," he says of an April 1991 decree from the Park District Commissioners.

Grandy hurriedly put together a battle plan. Weeds would have to be removed by hand, he reasoned, but how?

First, Grandy rated all the parks, ballfields, playgrounds and public areas under his jurisdiction.

Category 1: areas where weeds are a safety problem or where they're so obvious they'd draw complaints (flower beds, tennis courts, around signs and memorials, etc.);

Category 2: commonly used areas where weeds are unsightly but not a safety problem (comfort stations, near playground equipment);

Category 3: areas where weeds aren't particularly noticeable.

Then he hired three "weed removers" at minimum wage. "If in doubt, pull it out," were his instructions to these laborers. The weeders would start in the the high-profile areas and weed these intensively, and then work into the other categories as time and their progress allowed. Weeding is hot, boring work and Grandy says worker turnover increased as the season progressed.

He says he finished the 1991 season marginally satisfied with the no-pesticide program.

"I believe our challenges next year will be bigger. Next fall might be our big test," he tells LANDSCAPE MANAGEMENT magazine.

Then, apparently, it will be up to the 53,000 residents of Oak Park to decide for themselves if they like what they see in the parks and playgrounds.

—Ron Hall

Avoid environmental spiels

■ Officers from Lawnmark lawn care operations will meet with state regulators in New York before devising marketing strategies for Lawnmark's alternative lawn care programs.

Lawnmark president J. Martin "Marty" Erbaugh says he wants to make sure nothing his company advertises or implies concerning the use natural products is misleading to customers or prospective customers.

Erbaugh's caution is understandable.

The U.S. Federal Trade Commission, during the May 1991 Senate subcommittee lawn care hearings, reported it had uncovered five instances of deceptive advertising by lawn care companies. Four involved claims made by companies purportedly offering "organic" alternatives to chemical lawn care.

These investigations focused on claims that the advertised services or products were safe, non-toxic or safer than other types of lawn care services or products, reported the FTC.

Mark Nuzum, president of Harmony Products, thinks that lawn/landscape marketers should go easy on the save-the-earth angle.

"I think the message should be that you're providing a better product and a better service," he says.

Adds Scott Boutilier, Ringer Corporation: "I think a good thing to tell clients is that you're integrating the use of natural materials into your programs and you're using them at appropriate times.

continued on page 12

It's only a matter of time

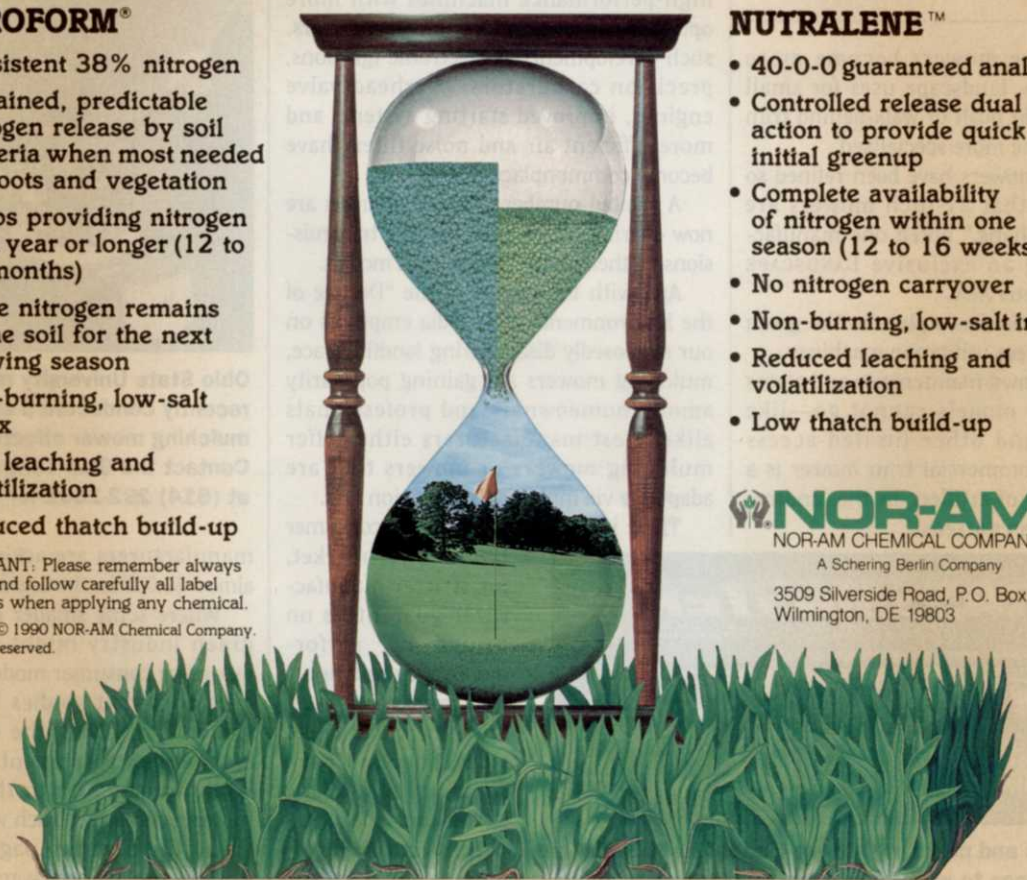
You know that good turf deserves the best forms of nitrogen. That's why you need slow-release NITROFORM® and controlled-release NUTRALENE™, two superior formulations that cater to your specific nitrogen needs.

With NITROFORM,® nitrogen is released slowly throughout the growing season and remains available to roots for one year or longer–when other nitrogen sources have been used up. Ideal for sandy soils where low micro-organism levels and leaching are often a problem. It also works well in clay soils since it stimulates micro-organisms that decompose thatch. Available in both dry and liquid formulations and applied at recommended rates with conventional equipment, NITROFORM won't burn top-growth or roots. So treated turf is subjected to less stress. As a result, it grows stronger and needs fewer pesticide applications.

With dual-action NUTRALENE,™ you can count on quick grass greenup in spring plus sustained release throughout one growing season. Unlike other controlled-release nitrogens, NUTRALENE is not solely dependent upon soil temperatures, moisture, coating or particle size for its optimum release pattern. Applied in chip or granular form, the dual release of NUTRALENE encourages outstanding growth response–even in early spring or late fall. In hot weather, its reduced leaching characteristics enable uniform, sustained feeding to continue.

NITROFORM®

- Consistent 38% nitrogen
- Sustained, predictable nitrogen release by soil bacteria when most needed by roots and vegetation
- Keeps providing nitrogen for a year or longer (12 to 16 months)
- Some nitrogen remains in the soil for the next growing season
- Non-burning, low-salt index
- Low leaching and volatilization
- Reduced thatch build-up



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- 40-0-0 guaranteed analysis
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- Non-burning, low-salt index
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Circle No. 113 on Reader Inquiry Card

"I'm not an anti-chemical person," he adds. "I'm a pro-alternative person and maybe that's the message people who provide these types of services should be giving their lawn care customers too."

The following fertilizer definitions are, tentatively, being recognized by the Professional Lawn Care Association of America:

- **Organic fertilizer:** contains carbon and one or more elements, other than hydrogen and oxygen, essential for plant growth.
- **Natural organic fertilizer:** derived from either plant or animal products. These materials shall not be mixed with synthetic materials.
- **Natural base fertilizer:** contains a minimum of 50 percent by weight of natural fertilizer materials.
- **Organic base fertilizer:** contains a minimum of 50 percent by weight of organic fertilizer materials.

"The biggest concern I have about the use of natural products," says Ed Dotson, O.M. Scott & Sons, "is the customers' understanding of what it all means. We definitely have an obligation to educate the customers."

LM REPORTS: TRIM MOWERS

A valuable piece of artillery in the landscaper's arsenal

Production of these handy machines exhibits a trend toward more high-performance and more options than ever before.

■ As mid-size mowers become more manueverable, landscape uses for small (20- to 28-inch) push or walk-behind trim mowers become more specialized.

"Mid-size mowers have been refined so much lately that 21-inch mowers are becoming orphans," noted one manufacturer during an exclusive LANDSCAPE MANAGEMENT interview.

Yet, there remains a place in the green industry for these utilitarian machines.

For home lawn maintenance and places where larger models cannot go—like cemeteries and other limited-access spaces—the commercial trim mower is a valuable piece of artillery in the landscaper/groundsman's arsenal.

And for golf course maintenance crews where most mowing is done with large five-and-seven gang tractors, a need still exists for small, manueverable machines to mow around trees and other obstacles.

A survey of major mower manufacturers seems to indicate a trend toward more high-performance machines with more options than ever before. In recent years, such developments as electronic ignitions, precision carburetors, overhead-valve engines, improved starting systems and more efficient air and noise filters have become commonplace.

A limited number of manufacturers are now offering hydrostatic, variable transmissions on their newer walk-behind models.

And with the advent of the "Decade of the Environment" and media emphasis on our supposedly disappearing landfill space, mulching mowers are gaining popularity among homeowners and professionals alike. Most manufacturers either offer mulching mowers or mowers that are adaptable via mulching conversion kits.

There is also a push, as in the consumer lawn mower market, for stricter manufacturer guarantees on equipment performance and usefulness.

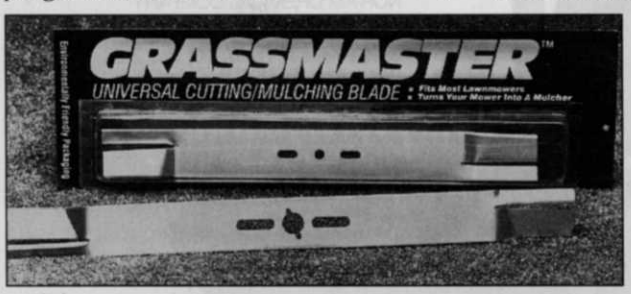
It comes as no surprise, then, that prices over the years have continued to escalate. In the consumer market, it is virtually impossible to buy a decent piece of machinery for less than $250. In the commercial market, manufacturers are asking from $500 to almost $1,000 for the heavier duty models.

Where some smaller operations in the green industry might opt for the less expensive consumer model, they should be cautioned that studies have proven the value of spending the extra money on commercial equipment, which is more likely to stand up to the 40+ hours of mowing demanded each week.

On the next two pages, you will find some of the major players in the commercial trim market and the types of equipment they are offering this season.

—Jerry Roche

Ohio State University researchers recently conducted a study of mulching mower effectiveness. Contact the Ohio Turfgrass Foundation at (614) 292-2601 for the results.



Mulching kits and mulching mower blades like this one are welcome options to walk-behind and push mowers. This particular blade lifts and cuts the grass, then re-directs the clippings back into the path of the blade, creating a fine mulch. Circle No. 349 on Reader Inquiry Card.

Why The Grass Is Always Greener At ServiceMaster.

During each of the last 3 years, revenues for ServiceMaster LawnCare has grown an average of 48%!

Obviously, we must be doing something right. And we are.

For one thing, ServiceMaster is one of the few lawn care companies able to provide truly *customized* treatment to every customer.

We specially design our own truck and equipment so you can individually tailor your treatment to each lawn.

Customized treatment.

For another, we provide complete training and back-up support. Programs like discount purchasing. A 1-800 hot line for special agronomic questions. Year-round marketing support that will help you get business even in winter.

Over 90% of our ServiceMaster franchises are still going strong after three years. In fact, *Fortune* magazine has named us No. 1 for return on equity in their ratings of the 500 top service companies in America.

So if you're looking for the right opportunity to start your own lawn care business, you simply can't find a company with a more consistent record for success.

If you qualify, you could get started in a ServiceMaster LawnCare franchise for as little as $8,200 down plus additional working capital.

You can start out while still keeping your regular job if you wish.

For more information, call Bob Morris toll-free at 1-800-228-2814.

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COMMERCIAL TRIM MOWERS

	Company	Model	Cut	Ht. Adj.	Engine	Self-Propelled	Other	Sugg. Dealer Retail	Circle No.
	Ariens	LM21 SP	21"	1 1/4-3 1/2"	Zenoah/Briggs 5hp	✔	Variable speed control		350
	Bunton	BC21-R	21"	1 1/8-3 3/4"	Briggs Quantum 5hp 2c	✔			351
		BC 21	21"	1 1/4-3 3/4"	Briggs Quantum 5hp 4c	✔			
	John Deere	14PZ	21"	1/2-3 1/2"	Briggs 4hp 4c	✘	"Tricycler" kit avail.	$439.00	352
		14SZ	↓	↓	Briggs 4hp 4c	✔		$549.00	
		12SB			Zenoah/Briggs 4hp	✔		$669.00	
		14SB			Kawasaki 4.5hp OHV	✔	"Tricycler" standard	$689.00	
		14SE			Kawasaki 4.5hp OHV	✔	"Tricycler" kit avail.	$799.00	
		14PB			Kawasaki 4.5hp OHV	✘		$589.00	
		12PC			Zenoah/Briggs 5hp	✘		$679.00	
		14SC	↓	↓	Kawasaki 5hp OHV	✔		$839.00	
	Echo	LM-212	21"	1-3 3/4"	Echo 4.1hp 2C	✘			353
		LM-212P	↓	↓	↓	✔			
		LM-212PB	↓	↓	↓	✔	Cast aluminum deck		
	Honda	HRC 216HXA	21"	1-3"	Honda 5.5hp	✔	Hydrostatic transmission	$954.95	354
		HRC 216SXA	↓	↓	Honda 4.5hp	✔	2-speed transmission	$894.95	
		HRC 215PXA	↓	↓	↓	✘		$719.95	
	Husqvarna	56DH	22"		Briggs Quantum 5hp				355
	Jacobsen	Commercial	20"	1-3"	Jacobsen 4.2hp	✘	Two-year warranty on crankshaft; Solid state ignition		356
	Kee	25	25"	1/4-4"	5.5hp Honda, 5 or 8hp Briggs	Kit available	20" Mag rear wheels lifetime frame & deck warranties		357
		GC22	25"	1 1/2-3 3/4"	3.5hp Honda or 5hp Briggs	Kit available			

	Company	Model	Cut	Ht. Adj.	Engine	Self-Propelled	Other	Sugg. Dealer Retail	Circle No.
	Kubota	W5021-PCC W5021-SCC	21″ ↓	1-3½″ ↓	Kubota 5hp OHV ↓	✘ ✔	Mulching kit available for both models		358
	Lawn-Boy	C21ZPN C21ZSN C21ZPR C21ZMR	21″ ↓	1-3″ ↓ 1-3½″ ↓	Lawn-Boy 4hp ↓ Lawn-Boy 5hp ↓	✘ ✔ ✘ ✔	Mulching options available for all 4 models 3-speed transmission	$549.95 $659.95 $669.95 $769.95	359
	Poulan	PP850PE PP800M PR750HW	22″ 20″ 22″		Briggs Quantum 5hp ↓	✘ ✘ ✘	Mulching kit available Mulching mower 16″ spoke rear wheels		360
	Pro	Classic	22″ 24″	1-3½″ ↓	Briggs 5hp or 8hp ↓	Kit available ↓	16″ or 20″ rear wheels ↓		361
	Ransomes **Bobcat**	M21-4BZIC M21-4SPZIC	21″ ↓	½-3½″ ↓	Briggs System II I/C 4hp	✘ ✔			362
	Roof	Commercial Ranger VP-75 400	21″ 26″ 26″ 21″	1-4″ 1-3″ 1-4″ 1-3″	Briggs I/C 4hp Briggs I/C 8hp Briggs Vanguard 9hp Briggs I/C 5hp	✘ ✔ ✔ ✘	 20″ spoke rear wheels 20″ spoke rear wheels 20″ heavy-duty rear wheels		363
	Toro	Commercial Recycler	21″	¾-3″	Suzuki 4.5hp	✔	Comes with grass-catcher bag	$819.00	364
	Snapper	C21559BV CAP21509R CP1409R2 CP21559BV CP21509R	21″ ↓	1-3″ 1-3½″ 1-3″ ↓	Briggs 5.5hp OHV Robins 5hp Robins 4hp Briggs 5.5hp OHV Robins 5hp	✘ ✔ ✔ ✔ ✔		$575.00 $735.00 $655.00 $655.00 $700.00	365

Lower temperatures signal increased care for equipment

by Bill A. Garratt

■ Snow, ice and subzero temperatures are no less wearing on landscaping equipment than they are on those of us who live and work with these elements for months on end. This is true for equipment in use and storage.

So when the job has to get done, whether the next frozen morning or next March, cold weather maintenance can help insure your fleets will start when the work shift does.

Most winterizing tips are applicable across product lines. With that in mind, this chart offers some guidelines that will help keep equipment productive despite the wrath of winter.

By making a conscious effort to follow these winterizing tips, your equipment will remain productive despite the threatening snow and subzero temperatures.

—The author is manager of service training at JI Case, a Tenneco Company, in Racine, Wisc.

Sufficient warm-up time prepares engine and hydraulic systems to perform properly under heavy loads.

WINTER EQUIPMENT MAINTENANCE

Proper warm-up

1. Wait until dashboard signal lights indicate machinge is ready.
2. Warm up on one-half to one-quarter throttle.

Batteries

1. If possible, store batteries indoors overnight.
2. Disconnect positive terminal when machine is off.
3. Check electrolyte levels regularly.
4. Keep battery charged.
5. Electric warning pads help batteries work in the cold.

Starting aids

1. Keep cold start kits available.
2. Use ether kits and electric coolant heaters when possible.

Lubrication

1. Lubricate regularly.
2. Retract cylinder rods to circulate oil whenever possible.

Winter storage

1. Start the machine at least once a month, and run until engine reaches normal operating temperature.
2. Check cooling system and top off all fluid levels.
3. Wherever possible, position cylinder rods inside cylinders.
4. Cover all intake and exhaust ports.
5. Check tire pressures and fill to specifications.
6. Lubricate fittings and linkages per maintenance schedule.
7. Drain all water traps after last machine use.
8. Cover or remove all seats not protected by cabs.

Source: The author

Helpful hints: Dealing with your friendly bank

by Ed Wandtke

Need a loan? Don't be surprised if your banker wants to see more proof than usual of your financial stability.

■ Financing the continued success and possible expansion of a business is becoming more challenging for most green industry companies.

Determining the amount of money needed to maintain the company during the off-season is increasingly difficult. Here are questions that need answering:

1) What can be done to increase its viability and secure adequate financing later?

2) What needs to be done to survive the financial crisis in the banking industry today, especially in light of the industry's seasonal nature?

Winter bank loans—For years you have been able to borrow the necessary funds to weather the winter cash crunch. This year—thanks to bank failures, declining profitability and increased deposit insurance premiums—banks will examine loan applications more closely.

When you go to the bank this winter, don't be surprised at the number of questions or the amount of additional information you'll need to supply. Bankers now want to know how last year's performance compared with the budget. They may even ask for the same information for the prior year if it has not already been supplied. In addition, don't be surprised if your banker asks for financial statements prepared or reviewed by your accountant. An audit will not be needed, but be prepared to supply more detailed financial information to your banker.

1992 may be the year you will be asked to supply personal tax returns for the past three

to five years, in addition to your personal financial statement. Bankers are becoming more concerned with the ability to repay loans, and are seeking to secure loans with more collateral than before. If these conditions arise at your bank, you will need to be prepared to deal with these requests.

Preparing to borrow—Here are some helpful hints:

1. Do not pay all of your company earnings to the owner.

Having a reasonable amount of funds showing as "Retained Earnings" will indicate to your banker your willingness to risk some past earnings on the company's future performance.

2. Identify what you do better than anyone else in the market.

An asset not reflected anywhere on your financial statements is your competitive strength in the marketplace. Letters from satisfied customers, community recognition, or profitability better than the industry average are all examples of how you are better than other companies in your market.

Develop a file on your company as if you were competing with yourself. What are the specific strengths that have led to the performance of your company? How are these strengths evident or provable? How will these strengths assist you in maintaining "better than average" performance? Demonstratable answers to these questions will serve as great ammunition in presenting a favorable financial picture.

3. Identify the value of your customer list and contracts.

Generally accepted accounting principles do not require that a value be assigned to your customer list.

Do a business valuation of the company. This valuation can be used in supporting the financial statements the banker will ask to see. Having this valuation completed—independent of your accountant—by an expert in the green industry is an excellent method of demonstrating to your banker the real value of your business. Many bankers do not realize the significant value of the customer list and service contracts. Coming prepared with a valuation is another method of putting your best foot forward.

4. Value your assets at market.

Accounts receivable are usually discounted by bankers; they assume you will collect 80 or 85 percent of them.

Presenting your bad debt write-offs for the past three years is often a revealing piece of information the banker is unfamiliar with. An appraisal made of your fixed assets also increases the value of your business.

The financial statement merely presents your fixed assets based on the depreciation allowed by the IRS. An appraisal of your assets can demonstrate that your fixed assets are worth far more than their book value. This information must be presented in compliance with generally accepted accounting standards for financial statement reporting.

Coming prepared to deal with your banker, and presenting the value of your assets is another method of improving your effectiveness in securing an operating loan.

—The author is a senior consultant with PC Systems, Inc., Columbus, Ohio.

Christmas tree recycling pays handsome dividends

■ Landscapers who offer a Christmas tree recycling program can bring in more clients, plus attract positive media coverage.

Manager Dave Millen of Olmsted Falls, Ohio, says Dugan's Garden Center's recycling program has worked out very well in the past. Millen says Dugans' Christmas tree recycling program has paid off to the tune of more customers for its full-service landscaping business.

Each person who dropped off a tree to be recycled had their name placed in Dugans' mailing file. "It increased our customer newsletter address list. We got a lot of mileage out of it in that respect," Millen reports.

About 500 trees were turned in following the 1990 winter holiday season. "That was the first year we've done it," Millen explains, adding that they could have had even more trees on hand if they had decided to accept unsold trees from large retailers. "We didn't get any chains who dropped off their trees—but we sure had a lot of them call" seeking permission to do so.

The discarded trees had a brief run-in with a chipper that quickly reduced them to mulch. "We ground them up and we used them around here" to protect and nurture the nursery stock, Millen says.

The only cost involved was the hiring of a chipper and operator. Even that came at a good price because "we have a good working relationship with one of the local tree contractors," Millen notes.

Administration of the program was virtually free: "We just had a sign out front telling them to stop at the office."

There the customers were placed on the mailing list and sent on their way—although a number of them stayed around to shop at the garden center.

"All we ask is that the trees are tinsel-free," Millen says.

The participants in the program loved it, Millen recalls. "They were happy to see something being done as an alternative to taking it to the dump."

Ohio, like many states, has passed laws restricting the amount of trash that can be placed in landfills. Landscape waste is a prime concern of both government and taxpayers, and the Christmas tree recycling project helped reduce a portion of that problem. "We had the idea because of our concern for the community," says Millen.

Dugan's has previously donated a truck for trash recycling programs, "and that kind of led to the idea of the Christmas trees," Millen recounts. "This is one area where we were able to help."

Millen laughs as he recalls a visit by an after-hours gasoline thief: the culprit paused long enough to drop off a tree.

The success of the winter endeavor was enough to convince the company to offer a summer garden debris program in which area residents were encouraged to drop off their landscape waste for inclusion in a compost pile.

The Dugan's Christmas tree program was written up in four newspapers and attracted a good amount of television coverage. "This is all free advertising," Millen points out. "(The press) is always looking for good stories, especially during the holiday season."

The company is also involved in other community events. At Halloween, a haunted house that is less scary for the benefit of younger children also doubles as a food-for-the-hungry drive. An Easter egg hunt and a "winter wonderland" display are other attractions.

—Jim Guyette

Liability considerations for recreational groundsmen

by Dr. Arthur H. Mittelstaedt, Jr.

Last month, we discussed safety as it relates to maintenance of public recreational areas. This month, liability takes the focus.

■ We often hear that the public has an "assumption of risk." This term, like many legal terms, carries different definitions from state to state. Interpretations should be addressed in accordance with the laws in your state.

However, practically speaking, when a person acknowledges formal risks which have been correctly communicated to them, that person assumes the risk. If signed statements of the risks along with verbal cautions are standard procedure, the owner/operator has less liability or has reduced his or her vulnerability.

"Contributory negligence"—another legal term that varies by state—usually means that the plaintiff, by omission or commission, has been negligent to the point of injuring or in any way helping cause an injury. In cases involving "comparative negligences," any negligent action of the plaintiff or injured is weighted and the fault is shared proportionally in the judgment.

"Proximate cause"—another variable legal term—generally means that an injury was caused or aggravated by a specific act of negligence.

"Foreseeability" is a less legal term. It is often used with "reasonable." Foreseeability is when the defendant should have predicted, foreseen or anticipated the plaintiff's action that caused or resulted in the injury. Today, we must consider what could happen, recognize it and prevent it from happening. When we don't, we are negligent.

"Reasonable" is when the defendant did try to think and do all things within possibility to recognize a hazard or danger and prevent it. However, he or she just didn't plan for that one-in-a-thousand situation or condition and someone was injured.

This is why a complete safety program is necessary. That one-in-a-thousand contingency may occur. If it does, at least it can be said that all reasonable precautions were taken. Thus, the risk had been reduced, but obviously not eliminated.

Standards are a broad term that are used as the means of measurement. Standards may be formalized, such as laws, government regulations, ordinances and policies. They may be set forth by voluntary standards groups such as ASTM or ANSI. They may be set forth by trade or professional organizations. They are also established by law.

Standards, when informally established, are often called "criterion" or "guidelines;" often referred to as "accepted practice" or "learned treatise" (books, professional articles, consumer articles, speeches), and as the state of the art.

"Theories of negligence" is a broad informal term used to describe the theories which a complaint or petition stipulates as having been violated when a suit is filed. It is used throughout the litigation process. The expert and attorney often focus on such theories, whereas the law is so variable by state that it is only the attorney's domain.

Theories of negligence often specify evidence that the defendant was aware of a defect or deficiency in practice. If the defendant received prior notice, such as through an inspection or an actual notice, does nothing to correct or prevent the incident, negligence becomes obvious.

Theories of negligence include entail established principles or practices governing the activity or facility:

- Improper planning
- Improper design (surveying, architecture, landscape architecture or engineering)
- Improper construction (electrical, mechanical, structural, general contracting or building, and the manufacturing and installing of materials)
- Improper maintenance and operation
- Improper protection (securing and protecting—including containing, prohibiting and warning of hazards and dangers)
- Improper surveillance (superintending and overseeing)
- Improper instruction: (leading, teaching and counseling)
- Improper user selection (in sports): (separating age, skill level, developmental levels, interests and needs; and assigning such individuals appropriately)
- Improper safeguards (providing guards, signs and labels, footwear, goggles, clothing, mouthwear, fences and insuring their fit and ability to withstand use and even abuse)
- Improper supervision/coaching: (providing, controlling, officiating, instructing and coaching)
- Improper or lack of warnings: (alerting and notifying through verbal and visual techniques)
- Improper administrative procedures: (conducting and administrating through various recognized records like injury reports, incident reports, minutes, logs and other forms of communication)
- Improper medical attention: (notifying, replying, responding, treating, attending, removing and subsequent treatment)

An understanding of the landscape professional's role in relation to public liability and its many aspects can correct or prevent the chance of an injury or death, and control the risk and loss to the agency.

—The author is board chairman of the Recreation Safety Institute, P.O. Box 392, Ronkonkoma, NY 11779. Phone number at the institute is (516) 563-4806.

Winter golf: Can it work?

Having a golf course open for winter play in cool-season areas is not common. But it can work, as shown by this Canadian course.

■ Here's one for you: winter golf in Canada. How's it done? Can it work for your course?

Gordon Witteveen, superintendent at the Board of Trade Country Club outside of Toronto, Canada, offers year-round tee

Professional turf performers.

First-rate disease and weed control demands a professional's touch. And here are the Turf Care products that have what it takes.

Daconil 2787.® The cornerstone of a professional spray program. Daconil 2787 is economical to use and the most effective, broadest-spectrum turf fungicide on the market. Controls 12 major turfgrass diseases. Available as a flowable or wettable powder formulation.

Daconil 2787® WDG. A new water-dispersible granular formulation that is virtually dust-free. Pouring and mixing are fast and easy. The 5-lb. reclosable container means better handling, storage and disposal.

Dacthal.® The preemergence herbicide that consistently delivers superior broad-spectrum control of crabgrass, spurge and 22 other tough annual grasses and broadleaf weeds. Available as a flowable or wettable powder formulation.

Daconate® 6. The proven postemergent herbicide. Highly effective against pesky weeds such as crabgrass. (Sold as Bueno® 6 in western states only.)

2 Plus 2 (MCPP + 2,4-D Amine). As effective as it is economical against more than 20 hard-to-kill broadleaf weeds such as clover and dandelions. Contains no dicamba.

Frigate® adjuvant. The only product specifically formulated to enhance the performance of Roundup* for control of perennial and annual weeds. For turf renovations and non-cropland use, too.

When it comes to turf care, you'll see the difference in the professional's touch.

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times on the club's south nine. There is rarely a shortage of "die-hards" for the extended service, he says.

Since 1981, club members have had the option to play the course throughout the winter when weather permits, although two other 18-hole courses are closed until the traditional season returns.

"It is not as cold as Americans might think," Witteveen says. (Toronto lies along the same latitude as Boston.) Witteveen adds that there are many mild winter days when a full round of golf is not only possible, but pleasant.

Witteveen keeps the tees, fairways and greens snow-free, occasionally by using snowblowers. Surface scalding damage from snowblowers is easily repaired in early spring. Beyond that, the course suffers no real damage from winter play, Witteveen says.

Tees and greens receive a heavy late-season sand topdressing which Witteveen credits as a good preventive practice. Dependable drainage also bolsters the hale and hearty sand-based greens which make a smooth transition from winter to spring play. The greens are kept clear through the winter.

"Those greens seem to survive a lot better and are in better shape in the regular season than some of the other greens. That is an interesting by-product. We're always amazed at how beautifully the course comes out," says Witteveen.

Winter's charms do pose special challenges for golfers and superintendents alike; Witteveen responds with unique solutions.

● Four cups are pre-dug on each green in late fall. Three are plugged over with artificial turf plates until needed. This makes changing the hole placement easier when the ground is frozen. Winter cups are also located at the back of the green because approach shots in cold settings tend to bounce to that area.

● Wooden tees are not practical in winter because of the frozen ground, so Witteveen's crew fashions rubber tees from discarded irrigation piping. Colored balls are used to stand out from the bordering white groundcover.

The short (three par-3s, six par-4s), challenging course can attract 75 to 100 golfers on a "balmy" winter day, and once played host to a 1984 tournament during a Canadian turfgrass convention. Low score that day was a respectable three-over 33.

Witteveen says holes-in-one have been recorded in December, January, February and March, and have all been dutifully reported to local newspapers.

Toronto's Board of Trade, the American equivalent of an American chamber of commerce, is likely the only one in Canada to own and operate a golf course, much less one offering tee times in November through February.

"This has not always made me popular with my colleagues in the area, who sometimes resent me for doing this. They feel it puts unfair pressure on them to do the same," says Witteveen, his voice trailing off in a low laugh.

—Jack Simonds

Mower safety reduces trips to hospital

Don't let any of your employees join the growing number of people injured while mowing a lawn.

■ Last year, an estimated 77,000 persons visited hospital emergency rooms, suffering from lost fingers, toes and other extremities that were nicked, lacerated or amputated by power mowers. Thousands more were probably treated in doctors' offices for lesser injuries.

Statistics show that about 50 percent of the injuries from all mowers and 64 percent of the injuries to operators of walk-behind mowers occur from blade contact.

The Consumer Product Safety Commission (CPSC) established mower safety standards in 1982 to guide manufacturers in the production of safer equipment. However, there are things that you can do, as operators, to reduce injury potential.

The following suggestions come from "Divots," the newsletter of the Miami Valley GCSA:

● Study your operator's manual to know the different functions of your mower.

● Make any adjustments to the mower before you begin to cut. And make sure the engine is not running.

● Remove all stones, wire and other objects from the area you plan to mow.

● Make sure children and other bystanders are away from the area you plan to mow.

● Never mow up and down a hill with a walk-behind mower. Always mow laterally to prevent slipping toward the mower.

● Never mow wet grass. It clogs up the deck and increases the chance of slipping.

● Wear sturdy leather or steel-toed shoes to protect your feet.

● When refueling, let the mower cool down first.

17 steps to course safety

■ Knowing the 17 steps that you, as a golf course superintendent, can take to make your golf course safer for its players is a key to good management, said Al Zikorus at a recent Public Golf Course Management Association meeting.

There are also design considerations that can take into account player safety, Zikorus said, but maintenance suggestions he cited are:

1. Remove all dead wood in trees. Golfers don't stay out of woods on real windy days.

2. Protect all shelters with properly installed lighting rods.

3. Find and fill any potholes on the property.

4. Repair any eroded areas by grading, seeding or sodding.

5. Fill any settlement of drains after heavy rains.

6. Keep all stairs under repair. Eliminate them where possible and re-grade the slope.

7. Keep all signs serviced.

8. Keep ball washers serviced.

9. Use Turface or a similar product to

keep tees from becoming slippery.

10. Replace broken sprinkler head covers.

11. Protect pumphouses with fences and locks to keep children away.

12. Check brakes and locking devices for overnight storage of carts and equipment.

13. Remove all low hanging branches that could affect equipment operators and golf cart operators.

14. Use highly visible gates, not cables.

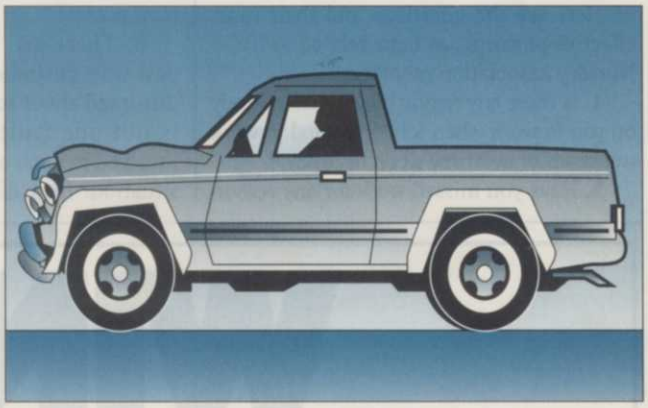
15. Remove rocks or cover from fairways and roughs that might ricochet a golf shot back to the golfer from across fairways.

16. Refrain from using railroad ties for sand trap facings.

17. Provide proper barriers in golf cart parking areas.

To minimize risk of injury to golfers, you should repair any eroded areas by grading, seeding or sodding.

Is your vehicle insurance a wreck?



Certain types of coverage are necessities—but that doesn't necessarily mean you should pay exorbitant premiums.

■ Basic vehicle liability coverages may be woefully inadequate to protect lawn maintenance operators in a serious mishap, according to Chester A. Pierce, benefits representative for the Lawn Maintenance Association in Florida.

Pierce's suggestions for making decisions on auto insurance, as listed in the organization's newsletter:

1) Set liability limits at a level high enough to protect your assets.

2) Carry uninsured motorist coverage at the same levels as your liability policy.

3) Buy personal injury protection which has no deductibles.

4) Consider higher deductible policies for collision coverage to keep premium payments down.

5) Carry comprehensive and collision coverage until the vehicle has little value.

Pierce also offers good preventive suggestions, including:

1) Use careful hiring practices, particularly with those you expect will drive.

2) Hold safety sessions with employees.

3) Explain to drivers that premiums are directly affected by driving practices.

4) Set a good example yourself to employees.

Pierce recommends thorough review of all policies. Questions about coverage should be fully explained by your agent.

Defusing those volatile clients

■ There are specific steps you can take when faced with a difficult customer, according to a recent Garden Centers of America newsletter.

Defusing difficult situations:

● **SMILE:** Give the customer a warm, sincere hello with a smile.

● **ANTICIPATE:** Head off customer complaints with a sincere, concerned comment. Take the offensive with kindness.

● **APOLOGIZE:** Take the blame for the customer's situation and empathize with them for their problem on behalf of your organization.

● **ACTION:** Solve the problems promptly.

Cooling irate customers:

● **LISTEN:** Let the customers know you are interested in their problems.

● **EMPATHIZE:** Put yourself in the customer's place. Use "warm fuzzies" that are genuine, specific, timely and sincere.

● **QUESTION:** Ask questions in a mature, non-threatening manner that requires the customer to think about answers.

● **REPEAT:** Tell customers your understanding of the problem, then suggest one or more alternatives to answer their concerns.

● **APOLOGIZE:** But don't issue any blame.

● **SOLVE:** Identify solutions to satisfy the customer's needs or find someone who can.

Hiring questions to ask & avoid

For legal and other reasons, it's important to ask the right questions during a job interview, and to avoid the wrong questions.

■ Legally, what *can* you ask and what *can't* you ask during a job interview?

Richard I. Lehr, general counsel to the Professional Lawn Care Association of America, lists 10 questions that provide solid, pertinent information about possible job candidates yet don't infringe on personal rights guaranteed by our legal system.

Here are the questions and their most effective phrasing, as Lehr related to Idaho Nursery Association members:

1. Is there any reason why we cannot rely on you to work when scheduled and to work weekends or overtime when necessary?

2. Have you missed work for any reason other than vacation or holidays during the past three years?

3. There are times when the schedule for providing our service will be hectic due to the weather and other circumstances beyond your control. There may be a lot of pressure involved. What kinds of circumstances have you been in where you have had pressure deadlines to meet? How did it turn out? What did you do to achieve that result?

Richard Lehr: ask hirees the right questions

4. We want customers to think that the services we provide are better than our competitors'. What do you think would provide this result?

5. There are times when each of us must deal with people we don't like. Tell me about such situations you have been involved in. What did you do? How did it turn out?

6. There are times when we have to deal with customers who are very mad or disturbed about something, even though it is not our fault. Have you ever been involved in such a situation? What was the situation? How did you deal with it? What was the result? Looking back on it now, should you have dealt with it differently, and if so, how?

7. Were you ever placed in a situation where you were asked to compromise your values, and if so how did you handle it? Do you have any regrets about that now?

8. Do you recall any situation at work or away from work where you believe that you were criticized unfairly? What was the situation? Why do you think it was unfair?

9. Are you most comfortable supervising others or being supervised? What were the attributes of the supervisor you most admired? What were the attributes of the supervisor you least admired?

10. What type of people have you most enjoyed working with? Describe those circumstances. Which individuals did you least enjoy working with, and why?

Remember, Lehr warns, that a relationship must exist between the answer to a question and the individual's ability to do the job. If not, the question may very well be illegal.

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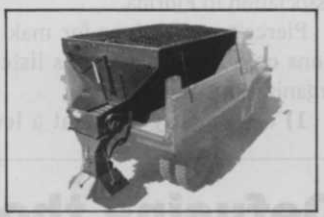

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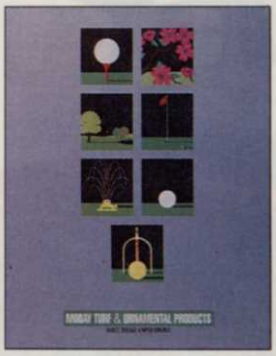

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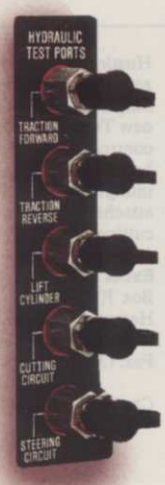
Each cutting unit is connected to a universal joint, so it can float freely in any direction, following the contour of the turf for an even, uniform cut. Or can be locked in a fixed position.

The Reelmaster 450-D can be customized with these accessories: ROPS, Cab, 5- and 7-bladed reels, rollers and thatching reels.

The Toro 450-D gives you protection against hydraulic fluid leaks. Wherever possible, hoses have been replaced with strong steel lines and O-ring seals protect connections. A hydraulic warning system flashes an alarm when the fluid level drops. For easy servicing, test ports for the hydraulic system are right on the side of the machine.



The Toro Company, Commercial Marketing Services, 8111 Lyndale Ave. So., Minneapolis, MN 55420.

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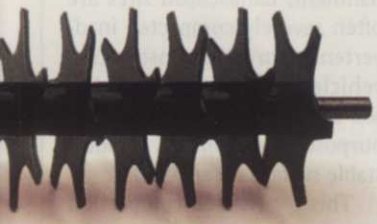
Toro's exclusive variable clip control allows you to calibrate reel speed and mowing speed to give you the highest quality of cut in varying course conditions. Combine that with faster mowing speeds, up to 7.5 mph and 12.5 mph transport speed, and you're going to witness an increase in productivity. All controls are in easy reach of the operator to provide greater comfort.

The 450-D is designed with its weight evenly distributed around a center-mount 50 hp engine for better balance. This means more uphill climbing ability than other machines and better traction.



Compared to tractor gang mowers, the Toro 450-D weighs less and is equipped with wide 31-inch tires that spread the weight for the lowest PSI, further minimizing turf marking.

For faster, easier mowing with more beautiful results, call your local Toro distributor for a demonstration of the Reelmaster 450-D or contact Toro at the address below. A machine built from the ground up with proven Toro design experience. And that translates into the kind of productivity no one can argue with.

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Circle No. 119 on Reader Inquiry Card

Water infiltration into soils

How much water is getting to your turf's roots? Water infiltration is a key to healthier turf.

by Don Taylor and C. Frank Williams

■ Water infiltration rate is the rate at which water enters the soil. It is critically important in managing turf.

The water infiltration rate determines how much water from a storm actually gets into the soil, and how much runs off the surface. It determines the rate at which irrigation water can be added, and the length of time irrigation can be continued before water starts to pond and run off.

Due to soil compaction, low water infiltration rates are common on golf greens, athletic fields and some lawns. In fact, most turf areas probably suffer from one or more of the following problems associated with low infiltration rates:

- lowered irrigation efficiency;
- excessive surface water puddling;
- poor playing conditions following rainfall; and
- turf damage from surface water ponding.

Many factors determine the water infiltration rate, including soil type, soil compaction and the presence of thatch or other layers at the surface.

Soil type—Water moves through the pores between soil particles. Generally, larger soil particles result in larger pores; thus, sandy soils with relatively large particles usually have higher infiltration rates than do finer-textured soils such as loams, silt loams and clay loams.

Several factors must be considered in applying this generalization to turf sites:

1) Compacted, sandy soils can have very low infiltration rates. We have measured rates below 0.1 inches/hour on golf greens modified to have 70 to 80 percent sand by weight.

2) Mixing small amounts of sand into fine-textured soil will usually not improve infiltration rates. Research has shown that sand contents must be very high—around 85 percent sand or higher—in soil mixtures to maintain high infiltration rates.

3) Finer-textured soils which are well-aggregated can have reasonably high infiltration rates if the soil structure or aggregation can be preserved. Aggregation of soils high in clay content is stronger and more easily preserved than soils high in silt content. However, soil structure near the surface of any type of soil will be destroyed if subjected to intensive vehicular or foot traffic.

The key is to preserve as much soil structure as possible, regardless of soil type. This can be done by:

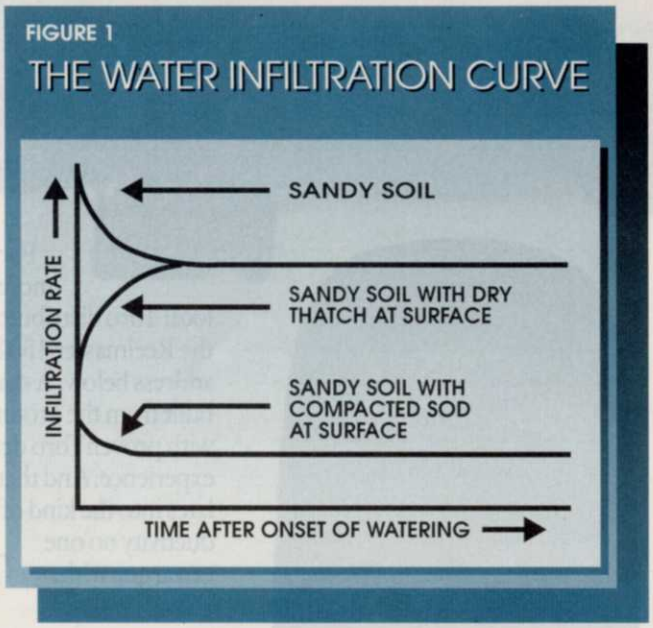
1) Keeping vehicular traffic to a minimum and preserving as much soil structure as possible before turf establishment.

2) Limiting unnecessary traffic on turf, especially when the soil is wet.

3) Maintaining conditions conducive to vigorous root growth, earthworm and micro-organism activity through proper watering, fertilization and aerification practices, and prudent pesticide use.

FIGURE 1

THE WATER INFILTRATION CURVE


SANDY SOIL
SANDY SOIL WITH DRY THATCH AT SURFACE
SANDY SOIL WITH COMPACTED SOD AT SURFACE
INFILTRATION RATE
TIME AFTER ONSET OF WATERING

Soil compaction—The majority of problems with low infiltration rates on turf areas probably result from soil that is compacted before turf establishment. Landscaped sites are often severely compacted inadvertently through construction vehicle traffic. Sometimes the soil is excessively compacted on purpose to establish a smooth, stable surface for sodding.

This type of soil compaction simply must be improved by deep plowing before establishing turf. After establishing turf, options for relieving soil compaction are severely limited.

Continued on page 28

ELSEWHERE

Fungicides for pythium control, page 29

Ant control in turfgrass, page 29

Preventing the leaching process, page 30

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Soil compaction following turf establishment can—and frequently does—occur on golf turf, athletic fields and other heavily used turf areas from concentrated foot traffic. The most common method of alleviating soil compaction on an established turf is through aerification.

Typical aerifiers only go to a limited depth (three to four inches, at most), and disturb a small percentage of the surface. A typical athletic field aerator with 3/4-inch tines taking cores on six-inch centers disturbs only 1.2 percent of the surface with a single pass. A typical golf green aerator with 1/2-inch tines taking cores on two-inch centers disturbs 4.9 percent of the surface. Thus, with most aerifiers, several passes over the turf when soil moisture conditions favor deep tine penetration are required.

The new deep-tine aerifiers can open holes to a depth of 12 inches or more. New water-injection machines can create openings in the soil using water drops under high pressure.

Thatch—The presence of thatch at the soil surface has interesting influences on water infiltration rates.

As long as the thatch layer is relatively un-decomposed, water can flow readily through it, if it is moist. If the thatch is dry, however, it becomes hydrophobic and repels water.

Fig. 1 shows the general response of infiltration rate as time progresses through a storm or irrigation cycle. In normal soils, infiltration rate starts high and decreases as the soil becomes increasingly wet. A dry thatch at the surface causes the initial infiltration rate to be low. Infiltration rate increases as the thatch moistens up.

Maintaining moist conditions in the thatch layer, either through syringing or by a short moistening irrigation prior to a storm or a regular watering, may improve water infiltration into the soil.

Other types of surface layers can severely impact water infiltration rate.

A layer of sod grown on fine soil or peat, once compacted, can severely limit water infiltration. The resulting infiltration curve is represented by the bottom curve in Fig. 1.

Wind-blown soil, particularly silt-sized particles, can plug the pores at the surface of a turf soil and reduce infiltration rates.

Algae growth can create a limiting layer at the soil surface.

Intensive aerification can help break up surface layers regardless of their source, and reduce their impact on water infiltration rates.

Rather than actually measuring infiltration rates (see accompanying article), it seems preferable for turf managers to evaluate the symptoms associated with low water infiltration rates.

One symptom is standing water on the soil surface. Perhaps the simplest method of determining if low infiltration rates are a problem for your turf conditions is to carefully inspect the area during normal irrigation cycles and during substantial storms. If any water collects at the surface during irrigation or if excessive amounts collect during storms typical of your area, then water infiltration rates are too low.

Other symptoms which may be useful in assessing water infiltration rates are evidences of soil compaction—such as hard soil or restricted root systems—shallow depths of soil wetting after irrigation, or distinct soil layering in the rootzone.

What can be done about low water infil-

RING SIZES SHOW DIFFERENT RESULTS

On one golf green where sand topdressing had resulted in several inches of sand over the original gravelly loam topsoil, infiltration rates measured with the small rings averaged 2.0 inches/hour, while the infiltration rate measured with the large rings averaged 0.6 inches/hour. Our opinion the water in the soil was flowing horizontally in the sand layer rather than vertically into the gravelly loam layer.

At one golf green, which had been constructed of 100 percent sand, and where we expected fairly uniform conditions, we measured rates varying from 2.6 to 7.9 inches/hour using the large rings.

—The authors

Measuring infiltration

■ Though many sophisticated methods are used to measure the water infiltration into soil, the only method suitable for routine use by turf managers is to drive a cylinder of two concentric cylinders into the soil. After maintaining a pond of water inside the cylinders for an hour or so, the infiltration rate can be determined by measuring how fast the ponded water in the inner ring drops.

If, for example, the water level drops by 0.2 inches in 15 minutes, the infiltration rate is 0.2 inches divided by 0.25 hours or 0.8 inches per hour.

Typical rings used in agriculture are one foot in diameter or larger. The double ring consists of an inner ring one foot in diameter and an outer ring 20 inches in diameter. Infiltration rings this large are cumbersome and require considerable quantities of water if the infiltration rate is high.

Smaller rings can easily be made. Rings made from a six-inch and an eight-inch turf repairer were used in an experiment to determine their usefulness in assessing water infiltration rates on turf areas. The results were not particularly encouraging and indicated two cautions with using ponded water in rings to measure infiltration rates:

1) Though small rings are easy to use, their results do not always agree with results from large rings. We found this to be particularly true where distinct layers were known to exist in the soil. Measurements from smaller rings are more affected by lateral or horizontal flow than larger rings, and the smaller the ring, the greater the over-estimation of vertical infiltration rate.

2) Infiltration rates into the soil can vary dramatically, even within a small area. Consequently, measurements at several locations on the turf site are essential. A single infiltration measurement to characterize a golf green, athletic field or other turf site may lead to gross errors. Even with several measurements, our opinion is that using water ponded in rings will do no better than give an estimate of infiltration conditions.

—Taylor, Williams

tration rates in turf areas? Most importantly, we need to change our perception about how the soil is treated prior to turf establishment. If everything possible were done to preserve soil structure and minimize soil compaction prior to turf establishment, most of our problems with low infiltration rates would not occur.

Where turf is already present and infiltration rates are low, aerification—and plenty of it—should be the first corrective measure. Once over is not enough; several passes are necessary. Often, adequate turf conditions can be maintained despite compacted soil and low infiltration rates with frequent and intensive aerification.

If regular aerification is insufficient, then more extensive treatments such as deep tine aerification or reconstruction may be required.

Fungicides for pythium on golf course fairways

■ In a test conducted at Penn State University, nine of 15 fungicides tested on pythium blight were providing excellent control eight days after application. By 16 days after application, eight, including three Banol/Subdue mixtures, were still providing control.

One fungicide application was made on July 16th. One day after application, the plots were inoculated with *Pythium aphanideratum*. They were again inoculated eight days after application.

The tests were conducted at the Valentine Turfgrass Research Center on perennial ryegrass maintained under golf course fairway conditions, which simulated high humidity.

The tests were conducted by P.L. Sanders and M.D. Soika, and reported in "The Keynoter," the publication of the Pennsylvania Turfgrass Council.

See adjacent chart for complete test results.

PYTHIUM BLIGHT CONTROL, POST-TREATMENT RESULTS

Treatment	Formulation	Rate/ 1000 sq ft	Pythium blight severity[1] 8 days post-treatment	Pythium blight severity[1] 16 days post-treatment
FCI 6444	50W	1.47 oz	8.2 a[2]	7.0 b[2]
RO 43-2664	24%E	0.32 fl oz	7.0 ab	9.2 a
FCI 6444	50W	2.9 oz	7.0 ab	8.3 ab
Check	N/A	N/A	6.3 ab	8.2 ab
RO 43-2664	24%E	0.65 fl oz	4.8 bc	9.0 a
RO 43-2664	24%E	1.3 fl oz	3.7 cd	8.7 ab
S 3116	G	6.9 lbs	3.3 cd	2.2 cd
Aliette	80W	4.0 oz		
+ Koban	30W	4.0 oz	1.8 de	3.2 cd
Aliette	80W	4.0 oz	1.2 de	3.0 cd
Subdue	2E	0.5 fl oz	0.7 e	2.8 cd
Subdue	2E	1.0 fl oz	0.7 e	3.3 c
Banol	6S	0.7 fl oz		
+ Subdue	2E	0.5 fl oz	0.7 e	1.5 cd
Banol	6S	1.3 fl oz		
+Subdue	2E	0.5 fl oz	0.7 e	1.3 d
Banol	6S	1.3 fl oz	0.5 e	3.3 c
Banol	6S	1.0 fl oz		
+Subdue	2E	0.5 fl oz	0.3 e	1.3 d
Aliette	80W	8.0 oz	0.0 e	3.0 cd

[1] 0-10 visual rating scale, where 0 = no blight present, 1 = 10% of plot blighted, and 10 = 100% of plot blighted; mean of three replications.

[2] Within columns, means followed by the same letter are not statistically different, using Waller-Duncan K-ration t test.

Source: P.L. Sanders & M.D. Soika, Penn State Univ.

ANT CONTROL RESULTS

Treatment	Rate (lb AI/acre)	Mean number of ant mounds per 144 ft² plot* 15 Aug	23 Aug	30 Aug	6 Sept	13 Sept	26 Sept
019537	2.5 lb/100 ft²	20.7 a	18.0 ab	6.8 bc	8.0 bc	8.5 ab	7.5 ab
Pageant DF	1.0	24.3 a	21.3 a	10.0 ab	19.7 a	18.0 a	13.2 a
XRM-5184	1.0	24.3 a	10.2 bc	4.7 bc	4.2 bc	8.5 ab	7.0 ab
Dursban ME 20	1.0	26.7 a	11.8 b	7.7 bc	6.8 bc	8.8 ab	6.2 ab
Triumph 4E	1.5 oz/1000ft²	24.2 a	4.7 c	3.3 c	1.7 c	2.7 b	3.7 b
Control	....	21.8 a	27.3 a	15.2 a	14.5 ab	19.5 a	8.7 ab

* Means within a column followed by the same letter are not significantly different (P=0.05; DMRT)

Source: Michigan State Univ.

Ant control in turfgrass

■ Triumph 4E was shown to be the best control for ant mounding in a test done by staffers of the Department of Entomology, Michigan State University, in 1990.

At three and four weeks after the August 15th treatment, Triumph 4E had significantly reduced ant mounding in comparison with the control. At one and two weeks after treatment, most insecticide products reduced mounding. None of the products tested was effective five weeks after application.

Preventing nitrate leaching

■ Nitrate losses on many fertilized grassy areas on many soil types are no greater than those on unfertilized areas, according to research from Cornell University.

"There are some cases, however," says Cornell's Dr. Norman W. Hummel Jr., "where the potential for nitrate leaching does exist."

Conditions that promote leaching, he says, are:

- sandy soils;
- too much water from irrigation or rainfall;
- applying more fertilizer than necessary; and
- using water soluble (quick release) fertilizers in the late fall.

Hummel, speaking at a Virginia Turfgrass Conference convention, noted three actions that turf managers can take to prevent nitrate leaching. They are:

1) Use slow-release fertilizers. "Research has shown that leaching of nitrates on even sandy soils can be prevented," Hummel says. "Most slow-release fertilizers release nitrogen at a rate similar to plant needs. Therefore, very little nitrogen is left to be leached out of the rootzone."

NITROGEN REQUIREMENTS PER 1,000 SQ. FT.

Pounds nitrogen**	Urea 46-0-0	10-5-5	16-8-8	25-3-3	20-3-7 20-5-10	SCU 36% N	Natural org. 6% N	Ureaform 38% N	IBDU 31% N
1/2	1	5	3	2	2 1/2	*	*	*	*
1	2	10	6 1/2	4	5	3	8 1/2	*	3
1 1/2	3	15	9 1/2	6	7 1/2	4	17	4	5
2	*	20	13	8	10	5 1/2	33 1/2	5 1/2	6 1/2
2 1/2	*	25	15 1/2	10	12 1/2	7	42	6 1/2	8
3	*	30	19	12	15	8	50	8	10

* Not recommended at these rates. ** Recommended *Source: Cornell University*

Hummel also suggests avoiding fertilizers that contain a large percentage of urea, ammonium nitrate, ammonium sulfate or ammoniated phosphates, especially if used in the late fall.

2) Don't over-fertilize. "Apply no more than one pound of actual nitrogen per 1000 sq. ft. at one time, unless a 100 percent slow-release material is used."

The table above lists fertilizer rates to deliver this nitrogen rate using different analysis fertilizers. Please, however, reduce these rates by 1/3 if clippings are returned after mowing. "Also, older lawns will require less nitrogen due to a build-up of soil organic nitrogen that occurs through time," Hummel notes.

3) Don't over-water. Apply only enough water to moisten the rootzone (about 3/4 of an inch of water on dry soil). "Too much water will drain through the profile, carrying nitrates with it," Hummel concludes.

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- Hard ceramic granules - will not breakdown, shrink or swell in the soil.
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Nice guys sometimes finish first

J. Martin Erbaugh's work with PLCAA, willingness to share with industry make him our 1991 'Person of the Year.'

■ Need proof that not all nice guys finish last?

J. Martin "Marty" Erbaugh, president of Lawnmark, Div. of Erbaugh Corp., is *Lawn Care Industry*'s 1991 "Person of the Year."

"He's one of the most respected people in lawn care," says Jerry Faulring, president of Hydro Lawn, Gaithersburg, Md.

"He's easy to know, makes friends easily, and he's never been afraid to share what he knows about the business of lawn care if he thinks it'll help the industry overall."

This openness and readiness to work beyond his own business interests figured heavily in our choice of Erbaugh.

After all, his Akron, Ohio-based company was only six months old—and almost two years away from turning a profit—when, in June 1979, he and 22 other people, most of them small business owners, agreed to start a professional lawn care association.

They were among the growing number of would-be entrepreneurs wanting to make a living, if not a very good living, in the lawn fertilizing business. ChemLawn had shown that this type of service could be made affordable for homeowners and profitable to providers. ChemLawn was—to one degree or another—their model. Or their target.

Erbaugh was among the group of energetic newcomers recognizing opportunity.

Not that the concept of lawn care was foreign to him. After studying religion at Denison University, Granville, Ohio, and law at Case Western Reserve University in Cleveland, he worked for a while at Davey Tree Co. in Akron. The family of his wife Lynne, whom he'd met at Denison, was involved in the company.

In fact, Erbaugh helped Davey Tree's entry into lawn care.

But there was no lawn care industry as such, not then.

Marty Erbaugh says Lawnmark will remain a player in residential lawn care market.

Nor was there a forum for lawn company owners to share ideas or remedy common concerns.

In fact, for months after these business people met at Fort Mitchell, Ky., and summarily formed the Professional Lawn Care Association of America (PLCAA), they weren't convinced if anybody, other than themselves, saw the lawn application people as capable of coalescing into a recognizable industry.

It wasn't until about 700 other LCOs showed up for PLCAA's first conference and show—and surprised suppliers with orders—that the word *industry* took on any meaning.

Erbaugh was a part of this.

"A lot of the people taking part in these initial meetings were young and entrepreneurial. They were independent. That's why they were in the business. They had egos," recalls Faulring.

"Marty was particularly good at listening to these discussions—there could be some shouting—and then bringing all the points together."

Erbaugh became PLCAA's second president in November 1981, succeeding Faulring.

It was a memorable year for Erbaugh in other respects as well.

Earlier that year, competition drove his Lawnmark from the Milwaukee market

Hindsight always being 20/20, Erbaugh said in a recent interview: "If I had it to do over again, I would be more careful in my assessment of the competitive situation."

He refocused Lawnmark in Akron, Ohio, and in Rochester, N.Y., and by 1983 Lawnmark had turned the corner, he knew. This year Lawnmark will exceed $12 million in sales, just over half coming from operations in New York, a state with strict lawn care regulations.

But Erbaugh's a pragmatist, not a Don Quixote. Lawnmark adapts to regulations, he says. That's business. (Note: Lawnmark was one of 10 lawn care companies which contributed several thousand dollars this past spring to start a "Federal Issues Management" campaign under PLCAA's umbrella.)

Says Richard White, ServiceMaster LawnCare: "Whatever happens, Marty seems to have the attitude that, well, we'll just find a way to overcome the problem. He just never seems to be daunted."

White also credits Erbaugh with being one of the top lawn care marketers he's ever met. "He never looks around at what everybody else is doing. He comes up with fresh ideas, his own ideas," says White.

Bob Earley, group vp of Edgell Communications and former editor of *Lawn Care Industry* magazine, says Erbaugh realized early on that lawn care was something customers wanted and that he, Erbaugh, could build a company to deliver it and make a fair profit too.

"He seemed to say to all of us that, 'hey, this is a real business and we can make money at this, but we have to approach it as a business, take care of the financial aspects, promote it.'"

At 43, Erbaugh says Lawnmark will remain focused on residential lawn care. Lawnmark's goal is $20 million in sales by 1995, he says.

Erbaugh is the eighth person to be named *Lawn Care Industry* "Person of the Year." The others have been: Faulring (1984), Richard Lee Duke (1985), Ron Giffen (1986), the late Bill Fischer (1987), the late Jim Marria (1988), James I. FitzGibbon (1989), and James Brooks

STATES WHICH REQUIRE COMMERCIAL FIRMS TO NOTIFY WHEN APPLYING LAWN CARE PRODUCTS TO RESIDENTIAL LAWNS

State	Direct Notification				Posting	Registry
	In advance		When applied			
	Customer	Neighbor	Customer	Neighbor		
Arizona			X			
Colorado			X		X	X
Connecticut	X	X			X	X
Delaware	X	X	X	X		
Florida	X		X		X	X
Illinois		X	X	X	X	
Indiana			X		X	
Iowa	X	X	X	X	X	
Kansas			X			
Kentucky	X	X	X	X	X	
Maine		X			X	
Maryland	X		X		X	X
Massachussetts	X		X		X	
Minnesota			X			
New Jersey	X	X			X	
New Mexico			X			
New York	X				X	
Ohio		X	X	X	X	
Pennsylvania		X				X
Rhode Island	X	X	X	X	X	
Vermont	X	X	X	X	X	
Wisconsin	X		X		X	

Source: General Accounting Office

Let the EPA do it, GAO tells Senate

■ The U.S. General Accounting Office (GAO) is playing Washington D.C.'s version of "pass it on, no returns."

The GAO was asked last spring by Senator Harry M. Reid (D-Nev.) to determine the effectiveness of state pesticide notification laws. This fall, it reported back to Reid and said the job belongs with the U.S. Environmental Protection Agency (EPA).

The GAO added that the EPA should pass on what it finds to *all* states, "thus helping those states interested in modifying existing programs or those states about to begin notification programs."

Reid is co-sponsor, along with Senator Joseph Lieberman (D-Conn.), of Senate Bill 849 which calls for nationwide pesticide notification by commercial applicators. The proposed federal legislation figured prominently in hearings before the Senate Subcommittee on Toxic Substances last May, but has received almost no publicity since.

The GAO report said none of the 23 states requiring commercial applicators to provide notification when applying lawn care pesticides has "formally assessed the effectiveness" of their laws. Also, seven states maintain registries of individuals wanting notification when commercial firms apply pesticides within certain distances of their homes.

"EPA officials told us they were aware of state notification programs but did not have sufficient information to reach any firm conclusion regarding whether such programs are effective," said the report.

The EPA will seek out regulatory officials, individuals on state registries and lawn care professionals to determine how effective these notification programs are, said the GAO report.

Missoula voters 'just say no' to posting law

■ An admittedly poorly-written ordinance requiring the posting of properties sprayed with pesticides was defeated by the voters of Missoula, Mont. on Nov. 6.

Final vote was 5,814 against, 4,352 for.

This particular issue was of immediate importance to the green industry, according to Responsible Industry for a Sound Environment (R.I.S.E.). Its loss signals to other communities that the voting public does not support over-regulation.

"R.I.S.E. cannot fight all local ordinances, but we have chosen Missoula because it...can be used as a precedent in other areas," R.I.S.E. executive director Allen James told LANDSCAPE MANAGEMENT last month.

Brad Selstad, a Missoula lawn care operator, told the *Missoulian* newspaper that the ordinance was defeated because it was poorly written and lacked public support. Due to pre-vote compromises between green industry interests and the Montana Public Interest Research Group (Mont P.I.R.G.), the burden of posting would have been placed on the homeowner, had the ordinance passed.

After the election, Mont P.I.R.G. was not ready to give up the fight. Executive director Brad Martin told the *Missoulian*, "I'm not sure that with a little more work, this community might rise up in strong support of an ordinance."

'Day on Hill' is scheduled for Feb., 1992

■ The 1992 Professional Lawn Care Association of America (PLCAA) "Legislative Day on the Hill" is Feb. 24-25.

PLCAA said DowElanco will provide speakers and some of the meals. There is no registration fee. Any lawn care company owner or manager can attend. PLCAA said it's making arrangements with a hotel close to the Capitol for attendees.

For more information, contact PLCAA at (404) 977-5222.

HOT TOPICS

Pesticide critic a hot item on winter turf programs

WASHINGTON—Jay Feldman says many professional pesticide users focus on profits and expediency, and disregard customer safety.

He also says the U.S. Environmental Protection Agency's pesticide registration mechanism is a hopeless failure. Hardly any of the pesticides being used on turf have been adequately tested for their long-term health affects, he claims.

Feldman is the keynote speaker at the Rocky Mountain Turf Conference in Denver on Wednesday, Dec. 4. On Friday, Feb. 14, 1992, he speaks about urban pesticide use at the International Golf Course Conference in New Orleans.

This is a far cry from when only the representatives of industry or industry trade groups pow-wowed (usually discreetly and to little purpose) with Feldman over his unending criticism of the pesticide industry.

Feldman is national director of the National Coalition Against the Misuse of Pesticides (NCAMP), an advocacy group that works out of modest offices in a residential neighborhood of Washington D.C. Since NCAMP's founding in 1981, Feldman has built himself into an outspoken and accessible—at least to the capital's media and politicos—critic of pesticide use.

This past spring, before a U.S. Senate subcommittee, Feldman ripped the specialty chemical industry, attacking everything from pesticide safety testing protocols to the U.S. EPA registration process, to the health hazards of actual applications.

Although Feldman's efforts in Washington D.C. reap him a surprisingly large soapbox, it's his and NCAMP's spider-web of activist contacts in communities across the country, and the possibility that they might be become a spark for a rash of local regulatory brushfires, that most concerns industry.

Feldman: will his message be welcome?

Feldman, through these supporters, has been pushing for more local control over pesticide use laws. In light of a U.S. Supreme Court ruling this past June and some recent "how-to" information from NCAMP, it's likely a lot of town councils will be debating the pros and cons of pesticide use this winter and spring.

Although some industry spokespeople question Feldman's appropriateness as a "keynote speaker" at a turf conference, even a regional one, they concede that he's somebody they'd now better, at least, pay attention to.

USGA looks at guidelines for sand analysis

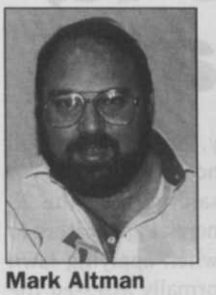
FAR HILLS, N.J.—The United States Golf Association's Green Section is considering guidelines that include organic analysis of sand for golf course greens construction.

"We're investigating that right now," says Green Section executive director Jim Snow. "Dr. Norm Hummel from Cornell University is on sabbatical, working with us to standardize lab procedures.

"We all agree that it's something that needs to be addressed. But it's not that easy to address."

Mark Altman of Altman & Altman Consulting, Marshall, Minn., says he's seen real problems on greens which arise from the organic analysis of their sand content.

"The sand makes a lot of difference in the green's performance," he says. "Carbon-to-nitrogen ratio is *the* most important thing in evaluating organic matter."



Mark Altman

Jim Snow

Altman, whose company specializes in golf course and athletic turf management, says the sand's organic content affects turf health via percolation rate, cation exchange and water-holding capacity.

"I'd like the Green Section to take the science of greens management one step further," Altman says. "The USGA doesn't have to endorse a product, just give superintendents guidelines so they can make an intelligent decision."

Snow says there is "no doubt" the Green Section will come up with guidelines for superintendents. "We might try to rank—in general terms—the sorts of organic amendments," he says. "We'll have a certain set of parameters to put in our specifications for greens construction."

ELSEWHERE

Revised seed chart, page 36

NFL Famer at GCSAA, page 38

Defining the word quality, page 38

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Circle No. 114 on Reader Inquiry Card

Seed availability for 1992 is re-examined

CLEVELAND—Because of a production error, incorrect seed charts appeared in the October issue of LANDSCAPE MANAGEMENT.

On this and the next two pages appear complete, updated charts. The magazine apologizes for any inconveniences.

SEED AVAILABILITY ESTIMATES, 1991-92

The following information is based on surveys conducted in July-August, 1991. Supply and price estimates may have changed since publication. (A=Surplus/B=Adequate/C=Limited)

BENTGRASS

Variety	Marketer	Supply	Price
Carmen	Vanderhave	B	Stable
Cobra	International Seeds	A	Stable
Dominant blend**	Seed Research	B	Stable
Emerald	International Seeds	A	Stable
Exeter (colonial)	Pickseed West	C	Stable
National	Pickseed West	B	Stable
Penncross	Lesco/Northrup King/ Tee-2-Green/Roberts Seed	B/A/B/B	Stable
Penneagle	Lesco/Northrup King/ Tee-2-Green	B/A/B	Stable
Pennlinks	Lesco/Northrup King/ Tee-2-Green	B/A/B	Stable
Pennway	Lesco/Tee-2-Green	B/B	Stable
Prominent	Seed Research	C	Stable
Providence	Seed Research	B	Stable
Putter	Jacklin Seed Co.	B	Lower
Reston (red top)	Pickseed West	B	Lower
SR 1020	Seed Research	B	Stable
Southshore**	Lofts Seed, Inc.	C	Stable
Tracenta	Vanderhave	B	Stable
V.I.P. blend	Turf Merchants	B	Stable to Lower

KENTUCKY BLUEGRASS

Abbey	O.M. Scott	A	Stable
Adelphi	J&L Adikes/Northrup King/ Jacklin Seed Co.	B/A/B	Stable
Alpine	Pickseed West	n/a	n/a
American	Pickseed West	C	Higher
Amazon	Jacklin Seed Co.	C	Stable
Argyle	Roberts Seed Co.	B	Stable
Aspen	Northrup King	A	Stable
Aquila	Northrup King	C	Stable
Banff	Pickseed West	B	Stable
Baron	Lofts Seed Inc.	B	Lower
Blacksburg	Turf Seed, Inc.	C	Higher
Bristol	O.M. Scott	C	Stable
Bronco	Pickseed West	B	Stable
Challenger	Turf Seed, Inc.	B	Stable
Chateau	Fine Lawn Research, Inc.	B	Lower
Classic	Jacklin/Peterson	B	Lower
Crest**	Pickseed West	B	Stable
Columbia	Turf Seed, Inc.	B	Stable
Coventry	O.M. Scott	C	Stable
Dawn	Lesco	B	Stable
Eclipse	Jacklin	B	Stable
	Peterson	B	Lower
	Zajac	C	Lower
Emerald	International Seeds, Inc.	A	Stable
Estate	Roberts Seed Co.	B	Stable
Freedom	Northrup King	A	Stable
4 Aces**	Turf Seed, Inc.	C	Stable
Fylking	Jacklin Seed Co.	B	Stable
Georgetown	Lofts Seed, Inc.	B	Lower
Glade	Jacklin Seed Co.	B	Stable
Haga	Burlingham	C	Stable
Harmony	Seed Research	C	Lower
Huntsville	Jacklin Seed Co.	B	Stable
Indigo**	Pickseed West	C	Higher
ISI 1034**	International Seeds, Inc.	C	Stable
Julia	Lesco	B	Stable
Kelly	Northrup King	A	Stable
Kenblue	Jacklin Seed Co.	B	Stable
Liberty	Zajac	B	Lower
Marquis	Roberts Seed Co	B	Stable

KENTUCKY BLUEGRASS *(cont.)*

Variety	Marketer	Supply	Price
Merion	Jacklin Seed Co.	B	Stable
Mystic	Lofts Seed, Inc.	C	Stable
Nassau	Lofts/Jacklin	B	Lower
Newport	Jacklin Seed Co.	B	Stable
Nugget	Pickseed West	n/a	n/a
Nu Star**	Jacklin Seed Co.	C	n/a
Park	Jacklin Seed Co.	B	Stable
Princeton 104	Lofts Seed Inc.	C	Stable
Ram 1	Lofts/Jacklin	C/B	Stable
Rugby	Northrup King Roberts Seed Co.	B/B	Stable
S-21	Jacklin Seed Co.	B	Stable
SR 2000**	Seed Research	C	Stable
SR 2100**	Seed Research	C	Stable
1757	Lofts Seed, Inc.	C	Stable
Shamrock**	Lesco	C	Stable
Suffolk	Lofts/Jacklin	B	Stable
Touchdown	Pickseed West	B	Stable
Trenton	Northrup King	A	Stable
Victa	O.M. Scott	B	Stable
Welcome	Seed Research	B	Lower

TURF-TYPE TALL FESCUE

Advent**	Jacklin Seed Co.	B	Stable
All*Star	Jacklin Seed Co.	B	Lower
Amigo	Northrup King	B	Lower
Arid	Jacklin/Northrup King	B/B	Lower
APM**	Jacklin Seed Co.	C	n/a
Apache	Turf Seed, Inc.	A	Lower
Aquara	O.M. Scott	B	Lower
Arriba**	Northrup King	B	Lower
Bonanza	Proprietary Seeds	A	Lower
Bonzai (dwarf)	Turf Merchants	B	Lower
Brahma	Roberts Seed Co.	B	Lower
Chesapeake	O.M. Scott	A	Lower
Chieftain	Roberts Seed Co.	B	Lower
Cimarron	Lesco	B	Stable
Confederate**	Turf Seed, Inc.	C	Stable
Crew-Cut (dwarf)	Proprietary Seeds	B	Lower
Crossfire	Pickseed West	B	Lower
Eldorado	Turf Seed, Inc.	B	Lower
Emperor	Zajac	B	Lower
Era**	International Seeds, Inc.	A	Stable
Falcon	Burlingham	B	Lower
Finelawn SGL	Fine Lawn Research	B	Lower
Finelawn 1	Fine Lawn Research	B	Lower
Finelawn Petite**	Fine Lawn Research	C	Stable
Gala**	International Seeds, Inc.	A	Stable
Galway	Northrup King	B	Lower
Guardian	Roberts Seed Co.	B	Lower
Houndog	International Seeds, Inc.	A	Stable
Jaguar	Zajac	B	Lower
Jaguar II	Zajac	B	Lower
Lancer**	Lesco	B	Stable
Leprechaun**	Roberts Seed Co.	C	Lower
Maverick II	Pickseed West	B	Lower
Maxim blend	Roberts Seed Co.	B	Lower
Mesa	Jacklin Seed Co.	B	Stable
Micro**	Turf Merchants	B	Lower
Mini-Mustang	Pickseed West	B	Lower
Monarch	Turf Seed, Inc.	B	Lower
Mow-Less**	Turf Seed, Inc.	C	Stable
Murietta	Turf Seed, Inc	B	Lower
Mustang	Pickseed West	B	Lower
MX-86	Jacklin Seed Co.	C	Higher
Olympic	Turf Seed, Inc.	B	Lower
Olympic II	Turf Seed, Inc.	B	Lower
Pacer	International Seeds, Inc.	A	Stable
Pixie**	Jacklin Seed Co.	C	n/a
Rebel	Lofts Seed, Inc.	C	Lower
Rebel II	Lofts Seed, Inc.	B	Lower
Rebel Jr.	Lofts Seed, Inc.	B	Lower
Rebel 3D**	Lofts Seed, Inc.	C	n/a
Recycler**	Turf Merchants	C	Lower
SR 8200* **	Seed Research	C	Lower
SR 8300* **	Seed Research	C	Lower
Safari**	Turf Seed, Inc.	C	Lower
Sapphire**	Vanderhave	A	n/a
Shenandoah**	Willamette	B	Lower
Shortstop	Pickseed West	B	Lower
Silverado	Turf Seed, Inc.	B	Lower
Sundance (dwarf)	Turf Merchants	C	Lower
Survivor blend*	Seed Research	B	Lower
Taurus (dwarf)**	Turf Merchants	C	Lower
Thoroughbred	Pickseed West	B	Lower
Thunderbird**	Burlingham	C	Lower
Titan*	Seed Research	B	Lower
Tomahawk	Turf Seed, Inc.	C	Lower
Trailblazer II**	Lesco	B	Stable
Tribute	Lofts Seed, Inc.	B	Lower
Trident*	Seed Research	B	Lower
Triathalawn	Turf Seed, Inc.	B	Lower

TURF-TYPE TALL FESCUE *(cont.)*

Variety	Marketer	Supply	Price
Trophy blend*	Seed Research	B	Lower
Turf Gem	Turf Merchants	B	Lower
Turf Gem Jr.	Turf Merchants	B	Lower
Twilight (dwarf)	Turf Merchants	B	Lower
Willamette	Willamette	A	Lower
Winchester**	Burlingham	B	Lower\
Wrangler	Jacklin/Lesco/TMI	B/B/B	L/S/L

FINE FESCUE

Variety	Marketer	Supply	Price
Azay (sheep)	Pickseed West	C	Stable
Cindy	International Seeds, Inc.	A	Stable
Dawson	Northrup King/ Vanderhave	B/B	Stable
Estacada	Turf Merchants	C	Stable
Flyer	Fine Lawn Research	B	Lower
Fortress cr'ping***	Tee-2-Green	C	Stable
Hector**	Vanderhave	B	Stable
Herald	International Seeds, Inc.	A	Stable
Revere creeping**	Northrup King	B	Stable
Ruby creeping	Northrup King	A	Lower
Shademaster	Lesco	B	Stable
Silvestor	Vanderhave	C	Stable
Virtus	Turf Merchants	B	Stable
Vista creeping**	Zajac	B	Stable

CHEWINGS FESCUE

Variety	Marketer	Supply	Price
Agram	Pickseed West	B	Stable
Atlanta	Vander Have	A	Stable
Banner	O.M.Scott	B	Stable
Camaro**	Fine Lawn Research	C	Stable
Center	Turf Merchants	B	Stable
Dover**	Northrup King	B	Stable
Enjoy	International Seeds, Inc.	A	Stable
Jamestown	Lofts Seed, Inc.	B	Lower
Jamestown II * **	Lofts Seed Inc.	B	n/a
Koket	Burlingham	B	Stable
Longfellow	International Seeds, Inc.	A	Stable
Mary	Vanderhave	B	Stable
Molinda	Vanderhave	A	Stable
SR 5000*	Seed Research	B	Stable
SR 5100* **	Seed Research	C	Stable
Shadow	Lesco	B	Stable
Victory	Pickseed West	B	Stable
Waldorf	Vanderhave	A	Stable
Wilma	Burlingham	B	Stable

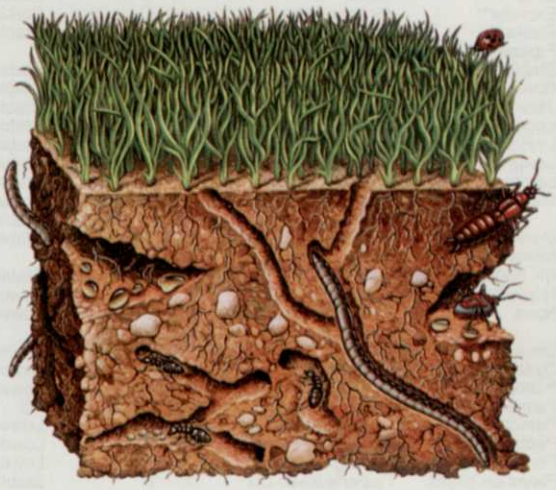
HARD FESCUE

Variety	Marketer	Supply	Price
Attilla	Turf Merchants	C	Stable
Aurora	Turf Seed, Inc.	B	Stable
Aurora* **	Turf Seed, Inc.	C	Stable
Biljart	Vanderhave	C	Stable
Eureka**	Fine Lawn/Int. Seeds	C/A	Stable
HF 9032**	Northrup King	C	Stable
Reliant* **	Lofts Seed, Inc.	B	Stable
Scaldis	Vanderhave	C	Stable
Silvana	Vanderhave	A	Stable
SR 3000*	Seed Research	B	Stable
SR 3100* **	Seed Research	C	Stable
Scaldis	Northrup King	B	Stable
Spartan	Lesco/Pickseed	B/C	Stable
Tournament	Pickseed West	C	Stable
Valda	International Seeds, Inc.	A	Stable
Waldina	Vanderhave	C	Stable

PERENNIAL RYEGRASS

Variety	Marketer	Supply	Price
Accolade	O.M. Scott	C	Lower
Allaire**	Turf Merchants	B	Stable
Alliance blend	Turf Seed, Inc.	B	Lower
All*Star	J&L Adikes/ Northrup King	B/C	Lower Stable
Aquarius	Turf Merchants	B	Stable
Assure	Lesco	B	Stable
Birdie II	Turf Seed, Inc.	C	Lower
Blazer II	Pickseed West	B	Stable
Brenda	Vanderhave	A	Lower
CBS blend	Turf Seed, Inc.	B	Lower
Caddie	Northrup King	C	Stable
Caliente	Willamette	A	Lower
Calypso	Roberts Seed Co.	B	Stable
Caravelle	O.M. Scott	B	Stable
Champion*	Seed Research	B	Lower
Charger	Turf Seed, Inc.	B	Lower
Citation II	Turf Seed, Inc.	A	Lower
Competitor**	Burlingham	B	Lower
Cowboy	Lofts Seed Inc.	B	Lower
Cutless**	International Seeds, Inc.	B	Stable
Dandy	Northrup King	B	Stable

WHY OUR FERTILIZERS ARE GOOD FOR THIS SYSTEM...



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PERENNIAL RYEGRASS *(cont.)*

Variety	Marketer	Supply	Price
Derby	International Seeds, Inc.	A	Stable
Derby Supreme**	International Seeds, Inc.	A	Stable
Dimension	Vanderhave	A	Lower
Edge**	Pickseed West	C	Stable
Envy**	Zajac	B	Stable
Express**	Pickseed West	C	Stable
Fiesta II	Pickseed West	B	Stable
F.puccinellia	Northrup King	B	
StableGator	International Seeds, Inc.	A	Stable
Goalie	Northrup King	B	Stable
Jazz	Pickseed West	B	Stable
Legacy**	Lesco	B	Stable
LIndsay	International Seeds, Inc.	B	Stable
Lowgrow	Pickseed West	C	Stable
Loretta	O.M. Scott	B	Stable
Manhattan II	Turf Seed, Inc/TMI.	B/C	Lower/ Stable
Manhattan II* **	Turf Seed, Inc./TMI	C/B	Stable
Mondial	Vanderhave		
NK 89001**	Northrup King	C	Stable
Nomad**	Turf Merchants	C	Lower
Nova	Seed Research/ Vanderhave	B/A	Lower
Omega II	Zajac	B	Stable
Ovation	O.M. Scott	C	Lower
Palmer	Lofts Seed, Inc.	B	Lower
Palmer II* **	Lofts Seed, Inc.	C	n/a
Patriot II**	Turf Merchants	C	Lower
Pebble Beach*	Fine Lawn Research	B	Lower
Pennant	Burlingham	B	Lower
Playmate blend	Roberts Seed Co.	B	Stable
Prelude	Lofts Seed, Inc.	B	Lower
Prelude II* **	Lofts Seed, Inc.	C	n/a
Quickstart**	Turf Seed, Inc.	B	Lower
Ranger	Vanderhave	A	Lower
Regal	International Seeds, Inc.	A	Stable
Repell	Lofts Seed, Inc.	B	Lower
Repell II* **	Lofts Seed, Inc.	C	Stable
Riviera	Roberts Seed Co.	B	Stable
Rodeo**	Turf Merchants	B	Lower
Rodeo II**	Turf Merchants	C	Lower
SR 4000*	Seed Research	B	Lower
SR 4100*	Seed Research	B	Lower
SR 4200*	Seed Research	B	Lower
SR 4300*	Seed Research	C	Lower
Saturn	Zajac	B	Stable
Seville	Willamette	B	Lower
Stallion *	Fine Lawn Research/ TMI	B	Lower/ Stable
Sunrye 246	Turf Seed, Inc.	B	Lower
Target	Northrup King	B	Stable
Troubadour	International Seeds, Inc.	B	Stable
Vantage	Proprietary Seeds	B	Lower
V.I.P. blend	Turf Mechants	B	Lower
Yorktown III * **	Lofts Seed, Inc.	C	Stable

**Contains endophytes*
***New variety*
****Final year of production. To be replaced by Shademaster.*

Irrigation tubing analysis is free to green industry

DANBURY, Conn.—Union Carbide Chemicals and Plastics Co. invites landscapers and golf superintendents to get a free irrigation tubing analysis.

Landscape professionals can send a two-foot sample of the irrigation tubing they are using to verify the tubing's quality and components.

Until now, the green industry could not be certain that the irrigation tubing they purchased was manufactured from high-quality resins, Union Carbide points out.

The company's Fingerprint Program has introduced a trace element into its mixing bins which identifies top-quality resins in its products.

The Fingerprint Program analysis provides a quality check that identifies ingredients and tells whether the tubing's carbon black is spread uniformly to prevent leaks and premature aging.

Landscapers and superintendents should contact: Union Carbide, Dept. QA, Bldg. 561, P.O. Box 186, Port Lavaca, TX 77979. There is no charge for this service.

Rogers, Bradshaw to highlight annual GCSAA extravaganza

LAWRENCE, Kans.—Record-breaking attendance is expected at the 63rd International Golf Course Conference and Trade Show, Feb. 10-17 in New Orleans, La.

According to the Golf Course Superintendents Association of America (GCSAA), last year's conference and show in Las Vegas drew more than 16,400 people, including many foreign visitors.

Features of the 1992 show are 60 educational sessions and seminars, a three-day trade show, a gala banquet with a performance by country musician Kenny Rogers, and a keynote speech by National Football League Hall-of-Famer Terry Bradshaw.

Nearly 600 manufacturers and distributors of products, supplies and services are expected to exhibit at the trade show Feb. 15-17 in the New Orleans Convention Center.

For more information on attending or exhibiting, write the GCSAA at 1421 Research Park Drive, Lawrence, KS 66049; or phone (913) 841-2240.

Quality is defined as 'process' to an end—not the end

SUSSEX, Wisc.—"Quality" is not the end result of a landscaping job, but rather a process that ultimately reflects a quality end result.

This definition comes from the most recent meeting of the Associated Landscape Contractors of America's Crystal Ball Committee.

Fifteen of the landscape industry's movers and shakers met here to issue this definition of quality:

"The process of continuous improvement of a product, service or organization that meets the requirements of the customer and ultimately exceeds their expectations."

Thus, quality, according to the committee, was defined not as "curb appeal," but as a business philosophy that is carried out in every aspect of a company. The highest quality companies, the committee decided, have a customer-focused management whereby they carefully guard and improve each step of meeting a client's wishes.

"You not only deliver a quality product, but each step of the way within your company, as you produce the product or service, is quality. You carefully control each of the processes that lead to the end result," says committee chairman Tom Lied. "You are improving a bit at a time in each step of the process and always focusing on the customer. So that as soon as you create a new plateau of effectiveness in a particular process, you immediately begin to look for another way to do it a little bit better."

Two Crystal Ball Committee reports on quality are available this month from the ALCA office. Both reports will also be discussed in depth at ALCA's Executive Forum in Naples, Fla. Jan. 26-29, 1992.

For more information, phone ALCA at (703) 241-4004.

INFO CENTER

TO LIGHT THE NIGHT...From Intermatic Professional Landscape Lighting comes a handy, two-color guide called "Light the Night." The 20-page guide is divided into six sections focusing on selling, designing, installing and servicing low-voltage landscape lighting. For a copy, send a check or money order for $1.75 to cover postage and handling to: "Light the Night," Intermatic Professional Landscape Lighting, Intermatic Plaza, Spring Grove, IL 60081-9698.

LANDSCAPE ESTIMATING FACTS..."Landscape Cost Data 1992" is now available through the R.S. Means Co. for $74.95. The fifth annual publication helps take the guesswork out of estimating with up-to-date, accurate prices on: walkways, earthwork, site lighting, shrubs, trees, fencing, walls, masonry, pipe, equipment, labor, seed, sod and paving. The publication contains 380 pages with illustrations. To reserve a copy, call (800) 334-3509 or fax your request to (617) 585-7466.

SELLING LANDSCAPING... Landscape contractors can enhance the value of their service, create awareness for their industry and make new sales with a new "Value of Landscaping" brochure created by the Associated Landscape Contractors of America. The brochure can be used in promotional mailings to homeowners, clients and real estate offices. To order copies, write ALCA at 405 N. Washington St., Suite 104, Falls Church, VA 22046 or phone (703) 241-4004.

ON COMPOSTING..."A Guide to Small Scale Food and Yard Waste Composting" is a 48-page publication featuring easy-to-read charts and guidelines available from the Publications Distribution Center, College of Agriculture, 112 Ag Administration Bldg., University Park, PA 16802. Cost is $4. For more information, call (814) 865-6713.

INSTALLING PAVING...Pave Tech Inc. offers landscapers a new "Installation Guide to Patios and Walkways," a simple-to-understand brochure. It offers tips on excavation, base preparation, sand setting bed, cutting and laying the pavers and placement of edge restraint systems. To get a copy, write Pave Tech Inc., P.O. Box 31126, Bloomington, MN 55431 or call (800) 728-3832.

MARKETING WORKBOOK... To make life a bit easier for business owners, Adrienne Zoble has created a 75-page looseleaf workbook entitled "The Do-Able Marketing Plan." It is a step-by-step guide to marketing. To order, send your name, address (no P.O. boxes) and check for $49.70 to Zoble Associates, 4 E. Cliff St., Somerville, NJ 08876. Or call (908) 968-7771 to request an order form.

EFFLUENT IRRIGATION...Dr. Ali Harivandi and the University of California Cooperative Extension service are offering a 12-page booklet entitled "Effluent Water for Turfgrass Irrigation," Leaflet 21500. Please order by title and publication number. Make a check or money order for $2 per copy out to "UC Regents." (Discounts are available for orders of 10 or more.) To order or to obtain more information, write ANR Publications, 6701 San Pablo Ave., Oakland, CA 94608-1239 or phone (415) 642-2431.

CRF WORKSHOP...The proceedings from a National Fertilizer and Environmental Research Center workshop on controlled release fertilizer is now available. To order, send $25 to Harper Dance, TVA Technical Library, NFE 1E, Muscle Shoals, AL 35660-1010.

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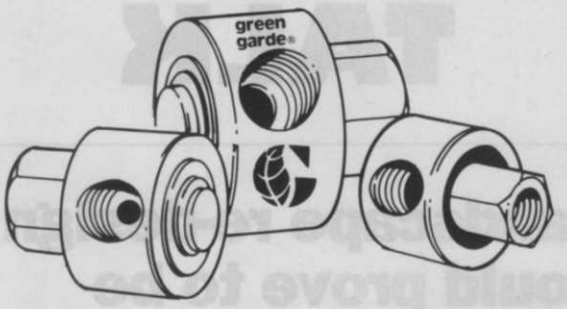

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JOB TALK

Landscape re-design could prove to be 'recession fighter'

Tell developers that they have to do whatever they can to attract and retain tenants.

■ The current economic climate is having varied effects on commercial property owners and homeowners alike. For many, the downturn and uncertainty are prompting careful planning and austere budgeting to control costs, and landscapers are feeling the pinch.

Updating the landscape—whether in the office courtyard or the home's front yard—may be the tonic that keeps tenants happy and revitalizes the buyers' interests.

Steve Brickman, regional vice president of The Brickman Group Ltd., Long Grove, Ill., is a believer in landscape re-designs.

"Popular fashions gradually change in landscaping, just as they do in architecture," says Brickman. "People don't often think about the last time they updated their landscape design, and their present plan may be getting old and obsolete. In simple terms, a new landscape design may be the most cost-effective way to 'remodel' a property."

Brickman realizes the importance of "curb appeal" to the success of the housing market. In the commercial market, says Brickman, "you have to do whatever you can to attract tenants to your development and retain the ones you have. Landscaping may be the first detail that sets you apart from the rest."

According to Brickman, the company has recently seen a surge of contracts from the residential market for landscape renovations and upgrades. While some owners do it just for a new look, many see it as a chance to make the property more attractive to prospective buyers.

"Homeowners may already be savvy to the benefits of improved landscaping," says Brickman. "The Associated Landscape Contractors of America (ALCA) recently polled home appraisers, and 95 percent of those surveyed said attractive landscaping not only enhances the home's sales potential, but adds significantly to its value as well."

A study by the Institute of Urban Studies at the University of Texas at Arlington in 1989 reveals a similar perception in the office market. A poll of brokers and other market professionals noted that landscape design had the strongest affect on occupancy, leading a list of 30 design variables.

The Scott Paper Co., 'before-and-after.' The Brickman Group transformed a simple asphalt square into a parkway, enhancing visual impact.

"Pedestrian amenities," such as walkways, outdoor seating areas and other features usually incorporated in the landscape design came in third. "Public amenities" such as sculpture, fountains and courtyards, ranked fifth.

"An office site with the proper landscaping will attract a better quality of client, will attract them faster, and will keep them longer," says Brickman. "This not only reduces turnover costs—which makes the development a better investment—but keeps the cash flow healthy, which can be quite a feat in these times."

The Scott Paper Co. recently commissioned a Brickman re-design at its headquarters in Tinnicum Township. The facility is 50 percent staff-occupied and 50 percent leased.

"Our leased-space facility—in fact, all of the campus—is more than 20 years old and competing with a couple of new office buildings in the area," says Jack Schink, Scott's corporate real estate leasing manager.

The Brickman team told Scott Paper that a re-design was the best way to go.

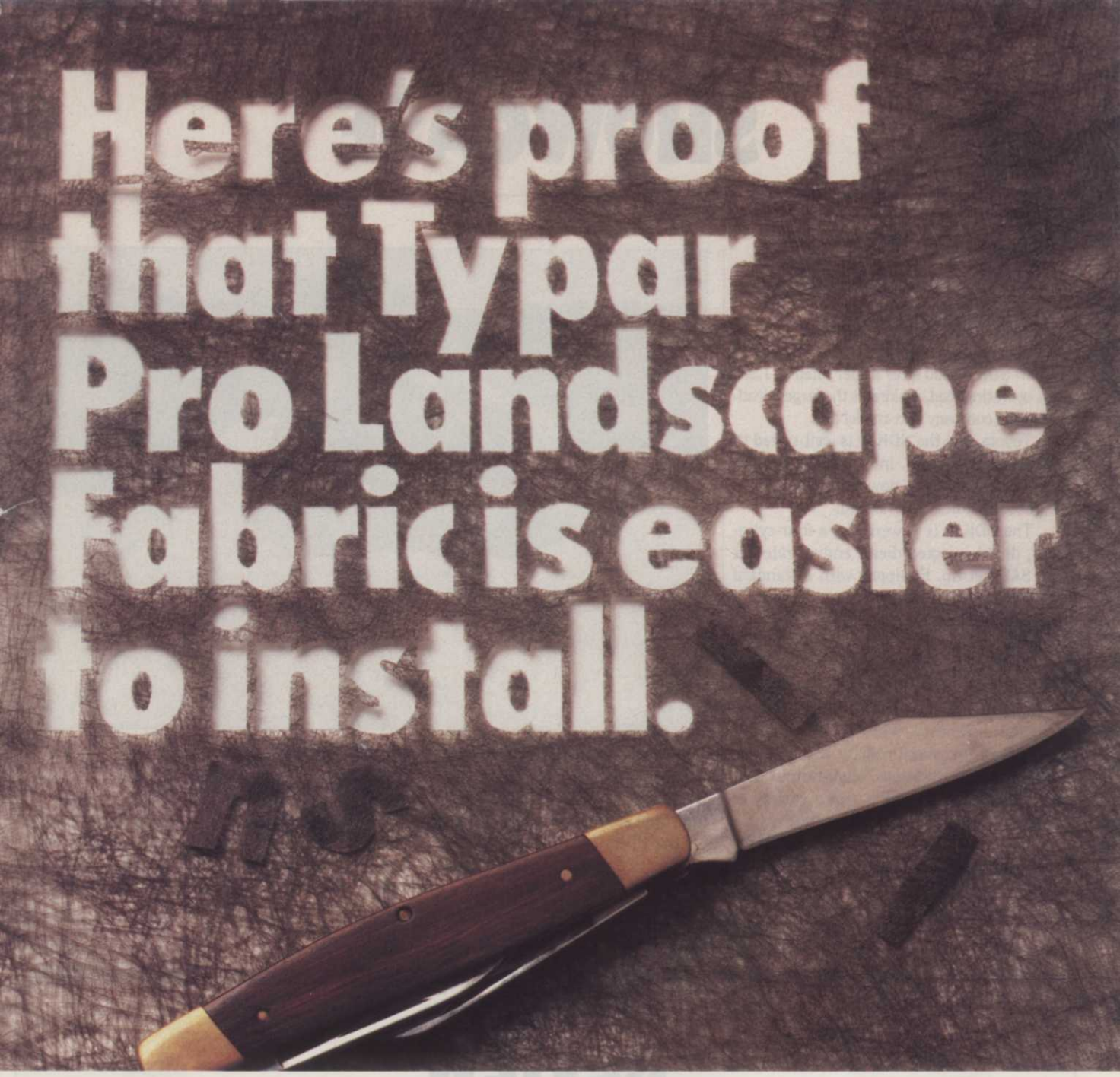
"Besides dramatically improving the aesthetic appeal of Scott Plaza, our project demonstrates that we are willing to invest capital to maintain the quality of our facilities," Schink says.

In addition to an array of visual enhancements, some long-term problems were solved. For example, an unusually high water table was lowered, thus eliminating crawl space flooding in the buildings.

"An updated landscape design is a billboard that declares, 'this is a superior and contemporary product,'" says Mark Culichia, a Brickman branch manager, and a registered landscape architect.

"After all," insists Culichia, "you only get one chance to make a good first impression."

Here's proof that Typar Pro Landscape Fabric is easier to install.



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GREEN INDUSTRY SHOWCASE

Loader has golf, landscape applications

Toyota Industrial Equipment has introduced a new SDK10 skid steer loader rated at 1,800 lbs operating load, making it the largest loader in the company's six-model line.

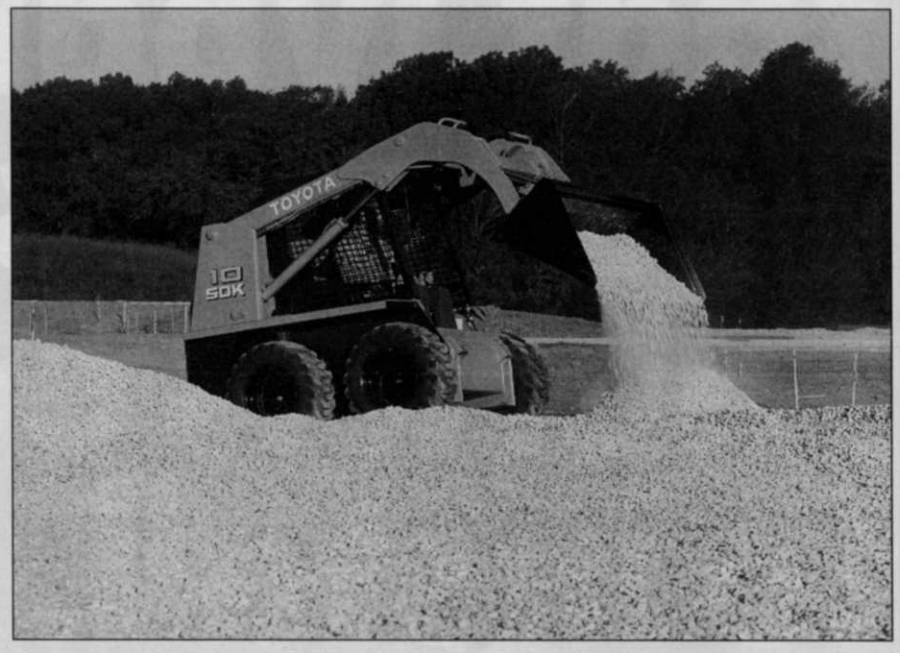
Toyota says the SDK10 is well-suited to larger construction, industrial and rental applications where powerful yet maneuverable machines are needed.

The SDK10 is powered by a four-cylinder, direct-injected diesel engine rated at 57 SAE net hp. Equipped with a standard 12.5 cubic foot bucket, it can generate a maximum breakout force of 4,740 lbs.

Maximum dump height is 96.4 inches.

According to Toyota, the SDK10 is designed to deliver outstanding productivity, with a massive frame and load arms for rugged durability, and dual lift and tilt cylinders for maximum breakout force under tough conditions. High-output auxiliary hydraulics, which run a variety of available attachments, are standard.

The loader has an auxilliary control on the right-hand steering lever that allows simultaneous lifting, dumping and auxiliary functions. Servo-assisted steering provides improved operator comfort.



The SDK10 is designed for larger construction projects.

The SDK10 has also been designed for easy service or repair. The operator's seat is hinged, and flips up for convenient access to hydraulic and engine components. A heavy-duty swing-out tailgate and flip-up engine hood offer easy access to the engine, radiator and hydraulic oil cooler.

Circle No. 190 on Reader Inquiry Card

SHOWCASE PRODUCT REVIEW

Trencher attachment for compact utility tractors

Du-Al Manufacturing has released a new model 1250A trencher attachment for compact utility tractors in the 18 to 35 PTO hp range.

The new 1250A features a patented hydra-creep worm gear drive that propels a standard transmission tractor during the trenching operation.

Using variable speed control, the operator can match his trenching speed to the soil conditions.

The PTO powered digging chain provides digging at depths of up to 54 inches, and trenching widths from 4 to 12 inches.

The trencher's automatic hydraulic boom lock helps the operator maintain a constant digging depth on the job site.

Circle No. 191 on Reader Inquiry Card

Hydrostatic track-drive trencher steers like auto

The Vermeer Flex-Trak 75 is totally hydrostatic, from the ground drive to a complete assortment of modular-design job attachments, including backhoe blade, reel carrier, trencher, vibratory plow and trencher-plow combinations.

The low-profile, high-flotation tractor unit measures less than 69 inches in width and features a reinforced undercarriage that offers nearly a foot of ground clearance to the front axle.

Ground pressure for the tractor only is 3.6 psi.

The automotive-type steering system

features dual ground drive pumps which enable the operator to counter-rotate the

Flex-Trak through a full range of variable speeds on each track.

The 13,500-lb. unit is powered by a John Deere 3179T, liquid-cooled diesel engine rated at 79 hp.

Circle No. 192 on Reader Inquiry Card

Line of skid steer attachments for 20-57 hp jobs

The four 900 Series loaders from Mustang range in size from 20 up to 57 hp.

Lift capacities of the 900 Series range

from 850 up to 1700 lbs. SAE load rating.

The Mustang product line features T-Bar steering controls, which give the operator full steering control from a single lever, allowing smoother, safer operation and less operator fatigue.

The 900 Series units are also an industry leader in performance areas such as break-out force, axle torque and operator comfort.

The Mustang's single lever Fast-A-Tach design makes attachment changes easy.

Circle No. 193 on Reader Inquiry Card

Trencher small in size, big in hydraulic power

The new 45 hp trencher/vibratory plow, the Model 4500, works in confined areas where other machines of similar power can't fit, according to its maker, Ditch Witch. The 4500 is smaller in size than many 30 hp models, yet with 50 percent more power.

According to The Charles Machine Works, Inc., the 4500 is well suited for underground service and distribution line installation by utilities and utility contractors.

In addition to an innovative hydraulic design that maximizes power to the digging attachment, the 4500 comes with a power-efficient hydrostatic digging drive motor and hydraulic oil cooling system.

Circle No. 194 on Reader Inquiry Card

THE WALKER TOUCH

The Perfect Touch Many operators are finding the mid-size Walker Mower is the perfect size for their jobs – a compact, maneuverable tractor for small areas, combined with open space productivity of a rider, saves time.

The "Midas" Touch Walker Mowers are moneymakers; one owner explained why he was buying a second Walker, "The first one made me money – I like to make money."

The Finishing Touch To please the most discriminating customer, Walker delivers a beautiful mowing job and with the exclusive GHS grass collection option, the turf is vacuumed clean and manicured.

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Circle No. 120 on Reader Inquiry Card

PRODUCT REVIEW

Tree-sheer attachment fits on skid-steer loader

A tree shear and grapple fork are two of the latest attachments available for Case Uni-Loader skid-steer loaders to increase Uni-Loader versatility and productivity.

The Dymax tree shear, fitting the Case Models 1840 and 1845C, is designed to cut unwanted trees in fields, construction sites, fence rows and many other applications. Available in 12- and 8-inch models, the tree shear cuts trees cleanly at ground level, leaving little topsoil disturbance.

Circle No. 195 on Reader Inquiry Card

Innovations built in to skid-steer loaders

The Bobcat 853 skid-steer loader has a push-button auxiliary hydraulic controls built into the steering levers, for control of both front and rear-mounted auxiliary attachments, such as grapples, augers, breakers and sweepers.

An automatic hydraulic pressure drain-down relieves pressure on the auxiliary hydraulic lines, allowing the operator to easily connect and disconnect the hydraulic couplers when changing attachments.

Circle No. 196 on Reader Inquiry Card

Loader backed by 2-year, 2,000-hour warranty

The Hydra-Mac Model 1450 has an operating capacity of 1450 lbs., and a tip-up capacity of 2800 lbs.

The 1450 features an exclusive hydrostatic, all-gear final drive rather than the chain drive standard on other skid steer loaders. It is built similar to those used in tractors and other heavy construction equipment and comes with a 24-month, 2000-hour warranty.

The Hydra Mac 1450 is powered by a three cylinder, 105 cubic-inch displacement, 40 hp Cummins diesel engine. A simple, two-hand lever control system eliminates foot pedals and operates all normal functions.

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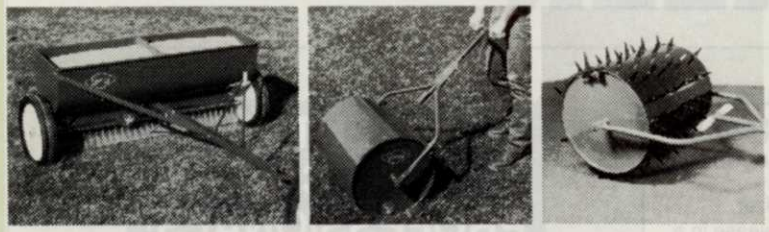

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IN THE GREEN

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CUSTOMER SERVICE

TIPS

On customer surveys...

by Ed Wandtke

■ Learning what your customers want or expect from your company is an essential ingredient in customer satisfaction.

Conducting a survey of what customers want will provide you with ideas for improving the level and quality of your service. One effective—and cost-effective—method of surveying customers is to ask questions of any customer calling into the company. Any incoming call from a customer is an ideal time to conduct a survey. They will have an opinion.

Questioning at this time will enable you to receive instant response rather than a considered or covered response if you were using a questionnaire.

The phone survey should run no longer than 10 questions and should not ask the customer to provide explanations for their responses. Seek answers to specific questions, solicit suggestions from the customer which are directed to improving service, offering additional service, or ask them to rate your overall performance as a company.

Telephone and in-person surveys are a good way to gauge current customer satisfaction with your service. They should also be used to solicit from the customer suggestions about what they would like to see you offer or do differently in the future. Do not rely on input from surveys alone in deciding action or direction for your company. Ask your employees for their input. They are concerned where you are heading and want to be asked to be involved.

—For a sample customer survey, write to Ed Wandtke, 2586 Oakstone Dr., Columbus, OH 43231-7614.

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Searching for the right employee? Time for a new position? Contact **Florapersonnel, Inc.,** international search and placement firm for the landscape, irrigation industries and allied trades. **Confidential. Fee paid by employer.** Florapersonnel, Inc., 2180 W. 434, Suite 6152, Longwood, FL 32779-5008. Phone: (407)682-5151 Fax: (407)682-2318. TF

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FOR SALE

ENGINES, EQUIPMENT, COMMERCIAL MOWER PARTS AND MORE! - Get your **FREE** catalog from Landscapers' Supply Corp. by calling 1-800-222-4303 or in New York 1-914-429-8300. 3/92

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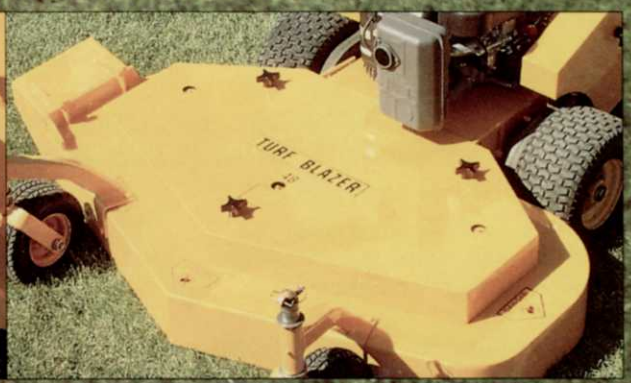

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